Supporting Information for

Longitudinal Plasma Proteomics Analysis
Reveals Novel Candidate Biomarkers in Acute Covid-19

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Supporting Figure S1. Histogram of protein coverage in DIA.
Supporting Figure S2. Overlap in detected proteins between the MRM and DIA methods
Supporting Figure S3. Interference in the endogenous signal of Phosphatidylcholine-sterol acyltransferase (LCAT) surrogate peptide SSGLVSNAPGVQIR. A-C show the intensity of the heavy labeled internal standard in blue and the endogenous peptide in red. A correspond to a healthy control individual, and B and C to one acute COVID-19 patient at two time points (B at 4 days and C at 14 days). D shows the generated standard curve for this peptide.
Supporting Figure S4. Increasing endogenous signal of Apolipoprotein C-II (APOC2) in one acute COVID-19 patient over time as shown by its surrogate peptide TYLPAVDEK. A-C correspond to the intensity of the heavy labeled internal standard in blue and the endogenous peptide in red at baseline, 4 days, and 14 days, respectively. D shows the generated standard curve for this peptide.
Supporting Figure S5. Correlations between targeted proteomics and data independent acquisition methods. A. Histogram of Spearman's correlation values between logarithm MRM concentration and logarithm DIA level, per sample for all proteins. B. Histogram of Spearman's correlation coefficients between MRM concentration and DIA level, per protein for all samples.
Supporting Figure S6. Identified protein abundance trends over time. Protein group members are listed in Supplementary Table S2.
Supporting Table S1. Targeted proteomics panel with protein detectability and quantifiability.

| Protein                                           | Surrogate peptide     | LLOQ (fmol/μl) | Mean of all measurements (fmol/μl) | Detected (yes or no) | Measurements above LLOQ (yes or no) | Quantified -- minimum 1% of measurements above LLOQ (yes or no) | Measurements above 50% LLOQ (count) | Quantified -- minimum 1% of measurements above 50% LLOQ (yes or no) | Mean above 50% LLOQ (yes or no) |
|---------------------------------------------------|-----------------------|----------------|-----------------------------------|----------------------|-------------------------------------|---------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------|---------------------------------|
| 60 kDa heat shock protein mitochondrial            | GIIDPTK               | 4.52           | 1.12                              | Yes                  | 2                                   | Yes                                                            | 7                                 | Yes                                                             | No                              |
| 72 kDa type IV collagenase                         | IDAVYEAPQEEK          | 7.01           | 0                                 | No                   | 0                                   | No                                                             | 0                                 | No                                                              | No                              |
| 78 kDa glucose-regulated protein                   | ITPSYVAFTEGER         | 24.39          | 14.23                             | Yes                  | 3                                   | Yes                                                            | 39                                | Yes                                                             | Yes                             |
| A disintegrin and metalloprotease with thrombospondin motifs 2 | IILSYGK              | 1.58           | 0                                 | No                   | 0                                   | No                                                             | 0                                 | No                                                              | No                              |
| A disintegrin and metalloprotease with thrombospondin motifs 20 | IPAGATNVDIR           | 0.58           | 0                                 | No                   | 0                                   | No                                                             | 0                                 | No                                                              | No                              |
| A disintegrin and metalloprotease with thrombospondin motifs 9 | LYNPDVR              | 14.62          | 0                                 | No                   | 0                                   | No                                                             | 0                                 | No                                                              | No                              |
| Actin, aortic smooth muscle                        | SYELPDGQVITIGNER      | 29.89          | 110.75                            | Yes                  | 95                                  | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Adhesion G protein-coupled receptor F5             | DVIVHPLPLK            | 1.48           | 2.49                              | Yes                  | 90                                  | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Adipocyte plasma membrane-associated protein        | LLEYDTVTR             | 5.66           | 19.19                             | Yes                  | 95                                  | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Adiponectin                                       | IFYNQONHYDGSTGK       | 6.59           | 80.76                             | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| ADM                                               | LDVASEFR              | 5.92           | 0                                 | No                   | 0                                   | No                                                             | 0                                 | No                                                              | No                              |
| Afamin                                            | DADPDTFFAK            | 56.52          | 206.86                            | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Alpha-1-acid glycoprotein 1                        | NWGLSVYADKPETTK       | 109.71         | 14427.98                         | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Alpha-1-antichymotrypsin                          | EIGELYLPK             | 25.55          | 9269.5                            | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Alpha-1-antitrypsin                               | SVLGQLGITK            | 47.51          | 33888.4                           | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Alpha-1B-glycoprotein                             | LETPDFQLFK            | 60.23          | 1914.51                           | Yes                  | 98                                  | Yes                                                            | 98                                | Yes                                                             | Yes                             |
| Alpha-2-antiplasmin                               | LGNQEPPGGQTALK        | 33.36          | 837.06                            | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Alpha-2-HS-glycoprotein                           | FSVVYAK               | 31.47          | 2102.05                           | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Alpha-2-macroglobulin                             | AIGYLNTGYQR           | 46.03          | 8256.96                           | Yes                  | 100                                 | Yes                                                            | 100                               | Yes                                                             | Yes                             |
| Angiogenin                                       | DINTFIHGK             | 4.37           | 0.29                              | Yes                  | 0                                   | No                                                             | 0                                 | No                                                              | No                              |
| Angiopoietin-related protein 3                     | DLVFSTWDHK            | 72.3           | 19.73                             | Yes                  | 0                                   | No                                                             | 0                                 | No                                                              | No                              |
| Protein Name                      | Peptide Sequence   | Mass (kDa) | Molar Extinction (M^2 cm^-1 dmol^-1) | Molar Extinction Coefficient (M^2 dmol^-1 cm^-1) | Absorbance at 280 (A280) | Molar Absorbance Coefficient (M^-1 cm^-1 cmol^-1) | Job's Number | Participation (%) |
|----------------------------------|--------------------|------------|-------------------------------------|------------------------------------------------|--------------------------|------------------------------------------------|-------------|---------------------|
| Angiotensinogen                  | ALQDQLVLVAAK       | 60.99      | 857.98                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Antithrombin-III                 | DDLYVSDAFHK        | 176.38     | 22129.72                            | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein A-I               | ATEHLSTLSEK        | 106.42     | 17455.6                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein A-II              | SPELQAEEAK         | 102.18     | 6664.77                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein A-IV              | LGEVNTYAGDLQK      | 31.36      | 564.89                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein B-100             | FPEVDVLTK          | 6.81       | 272.84                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein C-I               | EWFSETFQK          | 57.23      | 1503.05                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein C-II              | TYPAVDEK           | 9.15       | 1630.62                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein C-III             | GWVTDGFSSLK        | 53.65      | 5429.68                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein C-IV              | ELLETVVNR          | 10.39      | 31.59                               | Yes                                             | 75                       | Yes                                             | 90          | Yes                 |
| Apolipoprotein D                 | NILTSNNIDVK        | 42.16      | 1789.59                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein E                 | LGPLVEQGR          | 12.35      | 735.57                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein F                 | SGVQQLIQQYQDQK     | 15.89      | 433.15                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein L1                | VAQELLEEK          | 24.65      | 323.86                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein M                 | AFLTTPR            | 7.76       | 235.02                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Apolipoprotein(a)                | GTYSTTVTGR         | 58.97      | 346.37                              | Yes                                             | 79                       | Yes                                             | 88          | Yes                 |
| Aromatase                        | NMLEMIFFPR         | 52.35      | 0                                   | No                                              | 0                        | No                                              | 0           | No                  |
| Atrial natriuretic peptide       | ITDYGLESFR         | 6.25       | 0                                   | No                                              | 0                        | No                                              | 0           | No                  |
| Attractin                        | SVNNNVVR           | 3.94       | 59.31                               | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Autism susceptibility gene 2     | ALSLASSGS DK       | 3.16       | 0                                   | No                                              | 0                        | No                                              | 0           | No                  |
| protein                         |                    |            |                                     |                                                 |                          |                                                 |             |                     |
| B-cell scaffold protein with      | LTIVHHPG GK        | 12.46      | 0                                   | No                                              | 0                        | No                                              | 0           | No                  |
| ankyrin repeats                  |                    |            |                                     |                                                 |                          |                                                 |             |                     |
| Beta-2-glycoprotein 1            | ATVVVQGER          | 31.7       | 2361.95                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Beta-2-microglobulin             | VNHTLTSQK          | 3.8        | 341.67                              | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Beta-Ala-His dipeptidase          | ALEQDLPVNIK        | 15.64      | 49.52                               | Yes                                             | 99                       | Yes                                             | 100         | Yes                 |
| Beta-nerve growth factor          | TTATDIK            | 7.35       | 0                                   | No                                              | 0                        | No                                              | 0           | No                  |
| Biotinidase                      | SHLIAQVAK          | 11.28      | 64.11                               | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| C4b-binding protein alpha chain   | EDVVVGTVLR         | 28.46      | 2950.32                             | Yes                                             | 100                      | Yes                                             | 100         | Yes                 |
| Cadherin-13                      | INENTGSVSVTR       | 55.65      | 0                                   | No                                              | 0                        | No                                              | 0           | No                  |
| Cadherin-5                       | ELGSTGTPTGK        | 24.35      | 26.36                               | Yes                                             | 58                       | Yes                                             | 95          | Yes                 |
| Name of Protein                                      | Name of Peptide                        | Score | Tm | ranking | activity | oxidized | reduced | activity | oxidized |
|------------------------------------------------------|----------------------------------------|-------|----|---------|----------|----------|---------|----------|----------|
| Calcitonin gene-related peptide 1                    | NNFVPTNVGSK                            | 1.76  | 0  | No      | 0        | No       | No      | No       | No       |
| Calcitonin                                           | FHTFPQTAIGVAPGK                        | 1.48  | 0  | No      | 0        | No       | No      | No       | No       |
| Calponin-1                                           | VNVVK                                  | 11.74 | 0  | No      | 0        | No       | No      | No       | No       |
| Carbonic anhydrase 1                                 | VLDALQAIK                              | 5.61  | 201.81 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Carboxypeptidase B2                                  | IAHWVIR                                | 37.53 | 80.05 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Carboxypeptidase N catalytic chain                   | SIPQVSPVR                              | 2.01  | 143.03 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Carboxypeptidase N subunit 2                         | AGGSDLAVQER                            | 51.42 | 292.77 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Cartilage acidic protein 1                           | GVASLFAGR                              | 12.59 | 7.1 | Yes     | 10       | Yes      | 52      | Yes      | Yes      |
| Cathelicidin antimicrobial peptide                   | AIDGINQR                               | 16.02 | 16.94 | Yes    | 45       | Yes      | 87      | Yes      | Yes      |
| Cation-independent mannose-6-phosphate receptor      | GHQAFDVGQPR                            | 4.29  | 0.55 | Yes     | 5        | Yes      | 14      | Yes      | No       |
| CD40 ligand                                          | SQFEGFVK                               | 60.82 | 0   | No      | 0        | No       | 0       | No       | No       |
| CD44 antigen                                         | YGFIEGHVVIQR                           | 38.62 | 29.44 | Yes    | 13       | Yes      | 100     | Yes      | Yes      |
| CD5 antigen-like                                     | LVGGHLR                                | 110.8 | 0   | No      | 0        | No       | 0       | No       | No       |
| cDNA FLJ53327, highly similar to Gelsolin (NOT REVIEWED) | EGGOQAPASTR                         | 64.34 | 409.57 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Ceruloplasmin                                        | IYHSIDAPK                              | 106.6 | 2123.32 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Cholesteryl ester transfer protein                   | GVSLSFDINPEITR                         | 54.81 | 12.37 | No      | 0        | No       | 0       | No       | No       |
| Cholinesterase                                       | YLTNLTESTR                            | 5.73  | 31.79 | Yes     | 100      | Yes      | 100     | Yes      | Yes      |
| Chromogranin-A                                       | ELQDLALQGAK                           | 11.45 | 0   | No      | 0        | No       | 0       | No       | No       |
| Claudin-5                                            | PDLSPFVK                               | 2.76  | 0   | No      | 0        | No       | 0       | No       | No       |
| Clusterin                                            | ELDESQVAER                             | 57.63 | 2272.74 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Coagulation factor IX                                | SALVLQYLR                              | 51.03 | 50.78 | Yes    | 44       | Yes      | 99      | Yes      | Yes      |
| Coagulation factor V                                 | AEVDDQIQVR                             | 69.3  | 41.01 | Yes    | 2        | Yes      | 73      | Yes      | Yes      |
| Coagulation factor VII                               | VSQYIELWQLK                           | 0.64  | 0   | No      | 0        | No       | 0       | No       | No       |
| Coagulation factor VIII                              | LHPTHYSR                               | 85.1  | 0   | No      | 0        | No       | 0       | No       | No       |
| Coagulation factor X                                 | MLEVYPYDR                              | 14.93 | 0   | No      | 0        | No       | 0       | No       | No       |
| Coagulation factor XI                                | TSESGLPSTR                             | 39.85 | 42.42 | Yes    | 52       | Yes      | 89      | Yes      | Yes      |
| Coagulation factor XII                               | EOPPSLTR                               | 8.18  | 245.69 | Yes    | 100      | Yes      | 100     | Yes      | Yes      |
| Coagulation factor XIII A chain                      | GTYIPVPIVSELQSGK                       | 3.45  | 35  | Yes     | 100      | Yes      | 100     | Yes      | Yes      |
| Coagulation factor XIII B chain                      | IQTHSTTYR                              | 36.28 | 50.93 | Yes    | 76       | Yes      | 96      | Yes      | Yes      |
| Protein Name                        | Sequence         | pI   | MW  | Absent  | Present  | |   |   |
|------------------------------------|------------------|------|-----|---------|----------|---|---|
| Collagen alpha-1(I) chain          | GVVGLPGQR        | 14.2 | 0   | No      | 0        | 0 | No|
| Collagen alpha-1(III) chain        | GAGAGPGPEGGK     | 27.21| 0   | No      | 0        | 0 | No|
| Collagen alpha-1(XVIII) chain      | AVGLAGTFR        | 11.42| 6.41| Yes     | 4        | 52| Yes|
| Collagen alpha-2(I) chain          | GVGPQGAR         | 3.47 | 0.07| Yes     | 0        | 1 | Yes|
| Complement C1q subcomponent A      | PAFAIR           | 14.88| 166.82| Yes    | 100      | 100| Yes|
| Complement C1q subcomponent B      | IAFSATR          | 4.97 | 325.71| Yes    | 100      | 100| Yes|
| Complement C1q subcomponent C      | FQSVFTVTR        | 6.62 | 682.8| Yes    | 100      | 100| Yes|
| Complement C1r subcomponent        | GLTLHLK          | 6.27 | 386.59| Yes    | 100      | 100| Yes|
| Complement C1r subcomponent-like   | VVHPDYM          | 18.09| 71.44| Yes    | 100      | 100| Yes|
| Complement C2                       | HAFILQDTK        | 12.97| 144.47| Yes    | 100      | 100| Yes|
| Complement C3                       | TGLQEVEVK        | 60.13| 4780.85| Yes    | 100      | 100| Yes|
| Complement C5                       | VFOFLEK          | 7.33 | 258.97| Yes    | 100      | 100| Yes|
| Complement component C6             | DLHLSDVFLK       | 110.38| 180.04| Yes    | 84       | 99 | Yes|
| Complement component C7             | AASGTQNNVLR      | 245.39| 252.91| Yes    | 52       | 97 | Yes|
| Complement component C8 alpha chain| MESLGITSR        | 12.4 | 253.96| Yes    | 100      | 100| Yes|
| Complement component C8 beta chain  | SDLEVAVYK        | 13.17| 130.15| Yes    | 100      | 100| Yes|
| Complement component C9             | LSIYNLVPVK       | 58.99| 881.53| Yes    | 100      | 100| Yes|
| Complement factor B                 | EELPQD K         | 11.76| 1978.76| Yes    | 100      | 100| Yes|
| Complement factor D                 | TTHDGAITER       | 42.02| 0     | No      | 0        | 0 | No|
| Complement factor H                 | SQSEYAHGTK       | 31.68| 1736.88| Yes    | 96       | 96 | Yes|
| Complement factor I                 | VFSLQSGEVK       | 125.8| 404.95| Yes    | 100      | 100| Yes|
| Complement C4                       | VLSLAQEVQGSPK    | 72.4 | 2294.34| Yes    | 100      | 100| Yes|
| Corticosteroid-binding globulin    | WSAGLTSQVDLYIPK  | 429.88| 470.9 | Yes    | 67       | 100| Yes|
| C-reactive protein                  | AVFVPK           | 6.69 | 2784.62| Yes    | 100      | 100| Yes|
| Creatine kinase B-type              | DLFDPIEDR        | 5.38 | 0     | No      | 0        | 0 | No|
| Creatine kinase M-type              | FEELTR           | 2.72 | 0     | No      | 0        | 0 | No|
| Cystatin-C                         | ALDFAVGEYNK      | 11.37| 63.08| Yes    | 100      | 100| Yes|
| Protein Name                                      | AA     | Value | 5 | No | 0 | No | 0 | No | 0 | No |
|--------------------------------------------------|--------|-------|---|----|---|----|---|----|---|----|
| Desmoplakin                                      | AELIVQPELK | 3.52  | 0 | No | 0 | No | 0 | No | 0 | No |
| Dickkopf-related protein 1 and 2                 | GSHGLEIFQR | 9.93  | 0 | No | 0 | No | 0 | No | 0 | No |
| Di-N-acetychitobiase                             | ATYIQNYR | 24.94 | 22.44 | Yes | 42 | Yes | 83 | Yes | Yes |
| Elastin                                          | LPQGYGLPYTTGK | 15.2  | 0 | No | 0 | No | 0 | No | 0 | No |
| Endothelial lipase                               | LVSAHTR | 0.54  | 0 | No | 0 | No | 0 | No | 0 | No |
| Endothelial protein C receptor                   | TLAPFPLTR | 17.91 | 7 | Yes | 0 | No | 19 | Yes | No |
| Epidermal growth factor receptor                 | IPLENLQIIR | 4.3   | 0 | No | 0 | No | 0 | No | 0 | No |
| E-selectin                                       | YTHLVAIQNK | 8.25  | 0 | No | 0 | No | 0 | No | 0 | No |
| Extracellular matrix protein 1                   | NVALVSCTENAK | 9.58  | 37.98 | Yes | 100 | Yes | 100 | Yes | Yes |
| Fatty acid-binding protein heart                 | SLGVFATR | 7.66  | 0.23 | Yes | 0 | No | 1 | Yes | No |
| Ferritin light chain                             | LVNVQSLLELHK | 1.3   | 0 | No | 0 | No | 0 | No | 0 | No |
| Fibrinogen alpha chain                           | VQHIQLQLQK | 36.79 | 25738.49 | Yes | 100 | Yes | 100 | Yes | Yes |
| Fibrinogen beta chain                            | HQLYIDFVPTNLR | 48.29 | 29919.82 | Yes | 100 | Yes | 100 | Yes | Yes |
| Fibrinogen gamma chain                           | YEASLTHSSIR | 74.92 | 17979.67 | Yes | 100 | Yes | 100 | Yes | Yes |
| Fibronectin                                      | HTSVQQTSSSGPFTDVR | 43.82 | 387.05 | Yes | 100 | Yes | 100 | Yes | Yes |
| Fibulin-1                                        | TGYYFDFISR | 7.46  | 123.16 | Yes | 100 | Yes | 100 | Yes | Yes |
| Ficolin-2                                        | GTHGSGANGNWK | 142.15 | 30.21 | Yes | 0 | No | 1 | Yes | No |
| Ficolin-3                                        | YAVSEAAAHK | 101.35 | 140.83 | Yes | 72 | Yes | 94 | Yes | Yes |
| Follistatin-related protein 1                    | YVQELQK | 6.12  | 2.33 | Yes | 6 | Yes | 29 | Yes | No |
| Fructose-bisphosphate aldolase B                 | ALQASALAAWGGK | 136.05 | 45.16 | Yes | 3 | Yes | 10 | Yes | No |
| Galectin-3                                       | IALDFQR | 6.91  | 2.55 | Yes | 0 | No | 41 | Yes | No |
| Galectin-3-binding protein                       | SDLAVPSELALLK | 60.55 | 37.59 | Yes | 9 | Yes | 57 | Yes | Yes |
| Gamma-enolase                                    | YITGDQLGALYQDFVR | 4.72  | 0 | No | 0 | No | 0 | No | 0 | No |
| Gelsolin                                         | AGALNSDNSFVLR | 81.32 | 2583.04 | Yes | 100 | Yes | 100 | Yes | Yes |
| Glial fibrillary acidic protein                  | LAVVQAEELR | 4.51  | 0 | No | 0 | No | 0 | No | 0 | No |
| Glutamate receptor ionotropic NMDA 2A            | FSYIPEAK | 24.95 | 0 | No | 0 | No | 0 | No | 0 | No |
| Glutamate receptor ionotropic NMDA 2B            | EPQPGPSFTIGK | 7.33  | 0 | No | 0 | No | 0 | No | 0 | No |
| Protein Name                                | Peptide Sequence   | Peptide Mass | pI | Protection Status | Protection Evidence | Semi-Quantification | Semi-Quantification Evidence |
|---------------------------------------------|--------------------|--------------|----|-------------------|---------------------|---------------------|--------------------------|
| Glutathione peroxidase 3                    | QEPGENSEILPTLK     | 9.76         | Yes| 100               | Yes                 | 100                 | Yes                      |
| Glutathione S-transferase P                 | TLGLYGK           | 708.67       | Yes| 0                 | No                  | 0                   | No                       |
| Haptoglobin                                | DIAPTTLTYVGK       | 389.75       | Yes| 100               | Yes                 | 100                 | Yes                      |
| Heat shock protein beta-1                  | LFDAQAFGLPR        | 64.34        | 4.52| 0                 | No                  | 0                   | No                       |
| Hemoglobin subunit alpha                   | VGAHAGEYGAELER     | 131.6        | 1684.8| Yes              | 100                 | Yes                 | Yes                      |
| Hemopexin                                  | NFPSPVDAAFR        | 62.6         | 8977| Yes               | 100                 | Yes                 | Yes                      |
| Heparin cofactor 2                         | TLEAQLTPR          | 12.51        | 676.94| Yes             | 100                 | Yes                 | Yes                      |
| Hepatocyte growth factor-like protein       | SPLNDFQVLR         | 49.49        | 19.06| Yes              | 100                 | Yes                 | Yes                      |
| Histidine-rich glycoprotein                | ADLFLDVEALDLESPK   | 29.02        | 661.09| Yes            | 100                 | Yes                 | Yes                      |
| Hornerin                                   | GSGSGQSPSSGQHGTFGR | 30.82        | 0    | No               | 0                   | No                  | No                       |
| Hyaluronan-binding protein 2               | VVLGDQDLK          | 11.75        | 163.94| Yes            | 100                 | Yes                 | Yes                      |
| Ig gamma-1 chain C region                  | GPSVFPLAPSSK       | 54.83        | 22473.83| Yes           | 100                 | Yes                 | Yes                      |
| Ig mu chain C region                       | GFPSVLR            | 41.84        | 3923.63| Yes           | 100                 | Yes                 | Yes                      |
| Ig mu heavy chain disease protein and Ig mu chain C | VSVFVVPR   | 42.59        | 4235.09| Yes           | 100                 | Yes                 | Yes                      |
| IgGFc-binding protein                      | GATTSPGVYELSSR     | 10.19        | 17.27| Yes             | 69                  | Yes                 | 93                       |
| Immunoglobulin kappa variable 4-1         | NYLAWYQKGPQPPK     | 23.02        | 1601.92| Yes          | 100                 | Yes                 | 100                      |
| Insulin-like growth factor I               | GFYFNKPTGYGSSSR    | 44.35        | 20.18| Yes             | 0                   | No                  | 36                       |
| Insulin-like growth factor-binding protein 1| ALPGEQPLHALTR      | 38.15        | 1.55 | Yes             | 0                   | No                  | 4                        |
| Insulin-like growth factor-binding protein 2| LIQGAPTIR          | 4.14         | 20.13| Yes             | 91                  | Yes                 | 98                       |
| Insulin-like growth factor-binding protein 3| FLNVLSPR           | 2.56         | 12.84| Yes             | 100                 | Yes                 | 100                      |
| Insulin-like growth factor-binding protein complex acid labile subunit | NLIJAAVAGAFLGLK | 18.32         | 52.12| Yes            | 90                  | Yes                 | 96                       |
| Inter-alpha-trypsin inhibitor heavy chain H1| GSLVQASEANLQAAQDFVR | 655.05     | 1857.09| Yes          | 99                  | Yes                 | 100                      |
| Inter-alpha-trypsin inhibitor heavy chain H2| SLAPTAAK           | 28.05        | 796.97| Yes            | 100                 | Yes                 | 100                      |
| Inter-alpha-trypsin inhibitor heavy chain H4| SPEQQETVLGDNLIR    | 21.68        | 2216.71| Yes          | 100                 | Yes                 | 100                      |
| Intercellular adhesion molecule 1           | LLGIETPLPK         | 8.88         | 7.14 | Yes             | 14                  | Yes                 | 93                       |
| Interleukin-10                             | AHVNSLGENLK        | 6.58         | 0    | No              | 0                   | No                  | 0                        |
| Interleukin-10                             | AHVNSLGENLK        | 6.58         | 0    | No              | 0                   | No                  | 0                        |
| Protein Name                        | Sequence          | Natural Log (pIC50) | ITC      | HTR       | RT       | KDR      | LTR       |
|-----------------------------------|-------------------|--------------------|----------|-----------|----------|----------|-----------|
| Interleukin-6                      | FESSEEQAR         | 14.55              | 0        | No        | 0        | No       | No        |
| Interstitial collagenase           | AFQLWSNVTPLTFTK   | 5.32               | 0        | No        | 0        | No       | No        |
| Kallistatin                        | VGSALFlSHNLK      | 43.84              | 38.87    | Yes       | 31       | Yes      | Yes       |
| Keratin type I cytoskeletal 10     | SLLEEGSSGRRG      | 193.17             | 0.42     | Yes       | 0        | No       | No        |
| Keratin type I cytoskeletal 9      | TLLIDDNTR         | 12.71              | 0.06     | Yes       | 0        | No       | No        |
| Keratin-type II cytoskeletal 2     | YEELQVTGVR        | 285.62             | 3.05     | Yes       | 0        | No       | No        |
| Kallistatin                        | VGSALFlSHNLK      | 43.84              | 38.87    | Yes       | 31       | Yes      | Yes       |
| Keratin type I cytoskeletal 10     | SLLEEGSSGRRG      | 193.17             | 0.42     | Yes       | 0        | No       | No        |
| Keratin type I cytoskeletal 9      | TLLIDDNTR         | 12.71              | 0.06     | Yes       | 0        | No       | No        |
| Keratin-type II cytoskeletal 2     | YEELQVTGVR        | 285.62             | 3.05     | Yes       | 0        | No       | No        |
| Kallistatin                        | VGSALFlSHNLK      | 43.84              | 38.87    | Yes       | 31       | Yes      | Yes       |
| Keratin type I cytoskeletal 10     | SLLEEGSSGRRG      | 193.17             | 0.42     | Yes       | 0        | No       | No        |
| Keratin type I cytoskeletal 9      | TLLIDDNTR         | 12.71              | 0.06     | Yes       | 0        | No       | No        |
| Keratin-type II cytoskeletal 2     | YEELQVTGVR        | 285.62             | 3.05     | Yes       | 0        | No       | No        |
| Protein Name | Sequence | MW | CID | Reporter | SQ | In reporter | CID reporter |
|--------------|----------|----|-----|----------|----|-------------|--------------|
| N-acetylmuramoyl-L-alanine amidase | AGLLRPDYALLGHR | 94.35 | 158.54 | Yes | 93 | Yes | 100 | Yes | Yes |
| Natriuretic peptides B | EVATEGIR | 3.36 | 0.14 | Yes | 1 | Yes | 1 | Yes | No |
| Neutrophil-2 | ALQVR | 7.8 | 98.62 | Yes | 100 | Yes | 100 | Yes | Yes |
| Neutrophil gelatinase-associated lipocalin | ITLYGR | 1.54 | 5.24 | Yes | 92 | Yes | 95 | Yes | Yes |
| Nucleoside diphosphate kinase A, B | PFFAGLVK | 7.18 | 0 | No | 0 | No | 0 | No | No |
| Occludin | SLOQSELDEINK | 17.95 | 0.39 | Yes | 0 | No | 0 | No | No |
| Natriuretic peptides B | EVATEGIR | 3.36 | 0.14 | Yes | 1 | Yes | 1 | Yes | No |
| Neutrophil-2 | ALQVR | 7.8 | 98.62 | Yes | 100 | Yes | 100 | Yes | Yes |
| Neutrophil gelatinase-associated lipocalin | ITLYGR | 1.54 | 5.24 | Yes | 92 | Yes | 95 | Yes | Yes |
| Nucleoside diphosphate kinase A, B | PFFAGLVK | 7.18 | 0 | No | 0 | No | 0 | No | No |
| Occludin | SLOQSELDEINK | 17.95 | 0.39 | Yes | 0 | No | 0 | No | No |
| Osteopontin | GDSVYYGLR | 5.41 | 9.06 | Yes | 37 | Yes | 75 | Yes | Yes |
| Oxidized low-density lipoprotein receptor 1 | LEGQISAR | 7.99 | 0 | No | 0 | No | 0 | No | No |
| Pappalysin-1 | AYLVDNELK | 1.26 | 0 | No | 0 | No | 0 | No | No |
| Peroxiredoxin-1 | ADEGISFR | 29.55 | 1.82 | Yes | 1 | Yes | 3 | Yes | No |
| Peroxiredoxin-2 | GLIIDGK | 12.99 | 50.33 | Yes | 84 | Yes | 98 | Yes | Yes |
| Phosphatidylcholine-sterol acyltransferase | SSGLVSNAPGVQIR | 12.07 | 0 | No | 0 | No | 0 | No | No |
| Phosphatidylinositol-glycan-specific phospholipase D | FGSSLITVR | 11.42 | 32.3 | Yes | 94 | Yes | 100 | Yes | Yes |
| Phospholipid transfer protein | AVEPQLQEEER | 5.4 | 36.18 | Yes | 100 | Yes | 100 | Yes | Yes |
| Plasma protease C1 inhibitor | FQPTLLTPLR | 29.1 | 2887.54 | Yes | 100 | Yes | 100 | Yes | Yes |
| Plasma serine protease inhibitor | GFQQLLQLNQPR | 12.53 | 45.71 | Yes | 93 | Yes | 99 | Yes | Yes |
| Plasminogen activator inhibitor 1 | VFQQLAQASK | 9.79 | 0 | No | 0 | No | 0 | No | No |
| Plasma protease C1 inhibitor | FQPTLLTPLR | 29.1 | 2887.54 | Yes | 100 | Yes | 100 | Yes | Yes |
| Plasma serine protease inhibitor | GFQQLLQLNQPR | 12.53 | 45.71 | Yes | 93 | Yes | 99 | Yes | Yes |
| Plasminogen activator inhibitor 1 | VFQQLAQASK | 9.79 | 0 | No | 0 | No | 0 | No | No |
| Plasminogen activator inhibitor 1 | VFQQLAQASK | 9.79 | 0 | No | 0 | No | 0 | No | No |
| Plasma protease C1 inhibitor | FQPTLLTPLR | 29.1 | 2887.54 | Yes | 100 | Yes | 100 | Yes | Yes |
| Plasma serine protease inhibitor | GFQQLLQLNQPR | 12.53 | 45.71 | Yes | 93 | Yes | 99 | Yes | Yes |
| Plasminogen activator inhibitor 1 | VFQQLAQASK | 9.79 | 0 | No | 0 | No | 0 | No | No |
| Plasma protease C1 inhibitor | FQPTLLTPLR | 29.1 | 2887.54 | Yes | 100 | Yes | 100 | Yes | Yes |
| Plasma serine protease inhibitor | GFQQLLQLNQPR | 12.53 | 45.71 | Yes | 93 | Yes | 99 | Yes | Yes |
| Plasminogen activator inhibitor 1 | VFQQLAQASK | 9.79 | 0 | No | 0 | No | 0 | No | No |

S-17
| Protein                                      | Peptide                  | MW (kDa) | pI | Isotype | Expression | Functional Activity |
|----------------------------------------------|--------------------------|----------|----|---------|------------|---------------------|
| Protein S100-A12                             | GHFTTLSK                 | 19.75    | 38.26 | Yes     | 35         | Yes                 |
| Protein S100-A9                              | DLQNFLK                  | 9.82     | 320.28 | Yes     | 98         | Yes                 |
| Protein S100-B                               | EGVVVDK                  | 68.11    | 0   | No      | 0          | No                  |
| Protein Z-dependent protease inhibitor       | ETSNFGSLLR               | 51.96    | 51.09 | Yes     | 41         | Yes                 |
| Protein deglycase_Dj-1                       | ALVILAK                  | 2.12     | 4.01 | Yes     | 49         | Yes                 |
| Proteoglycan 4                               | DQYYNIDVPSR              | 17.91    | 54.17 | Yes     | 96         | Yes                 |
| Prothrombin                                  | ELLESYIDGR               | 30.58    | 3619.8 | Yes     | 100        | Yes                 |
| P-selectin                                   | TWTVGKT                  | 13.86    | 1.95 | Yes     | 13         | No                  |
| Ras GTPase-activating protein nGAP           | ETQSTPQSAPQVR            | 32.41    | 0   | Yes     | 0          | No                  |
| Resistin                                     | IQEVASSLIR               | 5.61     | 0   | No      | 0          | No                  |
| Retinol-binding protein 4                    | YWGVASFLQK               | 56.54    | 794.78 | Yes     | 100        | Yes                 |
| Serotransferrin                              | DGAGDVAFVK               | 222.04   | 9041.08 | Yes     | 100        | Yes                 |
| Serum albumin                                | LVNEVTEFAK               | 1104.6   | 396379.2 | Yes     | 100        | Yes                 |
| Serum amyloid A-1 and A-2 proteins           | EANYIGSDK                | 12.44    | 10304.29 | Yes     | 100        | Yes                 |
| Serum amyloid A-4 protein                    | GNYDAAQ                  | 23.89    | 1925.47 | Yes     | 100        | Yes                 |
| Serum amyloid P-component                    | IVLQEQDSYGGK             | 20.56    | 990.47 | Yes     | 100        | Yes                 |
| Serum paraoxonase/arylesterase 1             | IFFYDSENPASEVLR          | 47.79    | 541.32 | Yes     | 100        | Yes                 |
| Serum paraoxonase/lactonase 3               | ILIGTVFHK                | 3.43     | 2.83 | Yes     | 68         | Yes                 |
| Sex hormone-binding globulin                 | TSSSFENVR                | 20.51    | 33.85 | Yes     | 76         | Yes                 |
| SPARC                                        | LEAGDHPVELLAR            | 8.1      | 3.32 | Yes     | 10         | Yes                 |
| Spermine oxidase                            | YSTTHGALLSGQR            | 3.37     | 0   | No      | 0          | No                  |
| Sterile alpha motif domain-containing protein 9-like | ENVLDEVANAK            | 8.15     | 0   | No      | 0          | No                  |
| Stromelysin-1                                | TYFVVEDK                 | 63.39    | 4.16 | Yes     | 0          | No                  |
| Target of Nesh-SH3                           | IYLSDLGTGK               | 9.14     | 5.85 | Yes     | 7          | Yes                 |
| TBC1 domain family member 10A                | YLPGYYSEK                | 7.29     | 0   | No      | 0          | No                  |
| Tenascin                                     | FFTDLDSPR                | 11.11    | 6   | Yes     | 37         | No                  |
| Tenascin-X                                   | IUSGLEPSTPYR             | 8.9      | 3.9 | Yes     | 15         | Yes                 |
| Tetranectin                                  | NWETEITAQPDDGGK          | 70.78    | 80.02 | Yes     | 52         | Yes                 |
| Protein                                      | Sequence                | pIC50 | IC50 | Selectivity | Ex vivo | Ex vivo | Ex vivo | Ex vivo |
|----------------------------------------------|-------------------------|-------|------|-------------|---------|---------|---------|---------|
| Thrombomodulin                              | SSVAADVSSLNGDGGVGR      | 1.5   | 0    | No          | 0       | No      | No      | No      |
| Thrombospondin-1                           | GTLLALER                | 10.5  | 27.34| Yes         | 82      | Yes     | 99      | Yes     |
| Thrombospondin-4                           | KPDQFLEELK              | 31.81 | 0    | No          | 0       | No      | No      | No      |
| Thyroglobulin                               | FSPDDSAGASALLR          | 9.82  | 0    | No          | 0       | No      | 0       | No      |
| Thyroxine-binding globulin                  | AVLHIGEK                | 5.19  | 193.31| Yes         | 100     | Yes     | 100     | Yes     |
| Tissue_factor_pathway_inhibitor             | FYNSVIGK                | 6.43  | 1.58 | Yes         | 0       | No      | 17      | Yes     |
| Tissue-type plasminogen activator           | VVPGEEEQK               | 59.82 | 0    | No          | 0       | No      | 0       | No      |
| Transcription factor SOX-1                  | AAQSGDYGGAGDDYVGLSLR    | 3.47  | 0    | No          | 0       | No      | 0       | No      |
| Transferrin receptor protein 1              | GFVEPDHYVVVGAQR         | 29.67 | 13.04| Yes         | 0       | No      | 18      | Yes     |
| Transthyretin                               | GSPAINVAVHVFR           | 31.05 | 138.34| Yes         | 100     | Yes     | 100     | Yes     |
| Tumor necrosis factor receptor superfamily | LGLSDHEIDR              | 8.66  | 0    | No          | 0       | No      | 0       | No      |
| Tumor necrosis factor receptor superfamily | DEQVPFSK                | 8.04  | 0    | No          | 0       | No      | 0       | No      |
| Vascular cell adhesion protein 1            | NTVISVPNSTK             | 24.62 | 19.77| Yes         | 29      | Yes     | 70      | Yes     |
| Vascular endothelial growth factor B        | VVSWIDVYTR              | 5.74  | 0    | No          | 0       | No      | 0       | No      |
| Vascular endothelial growth factor D        | DUIQHPK                 | 5.02  | 0    | No          | 0       | No      | 0       | No      |
| Vascular non-inflammatory molecule 3        | TETPVSK                 | 107.04| 11.98| Yes         | 92      | Yes     | 100     | Yes     |
| Vasorin                                     | YLQGSSVQLR              | 8.27  | 11.98| Yes         | 92      | Yes     | 100     | Yes     |
| Vitamin D-binding protein                   | VLEPTLK                 | 46.42 | 2349.04| Yes       | 100     | Yes     | 100     | Yes     |
| Vitamin K-dependent protein C               | LGEYDLR                 | 10.28 | 24.56| Yes         | 93      | Yes     | 99      | Yes     |
| Vitamin K-dependent protein S               | VVFAFGPR                | 15.79 | 335.87| Yes        | 100     | Yes     | 100     | Yes     |
| Vitamin K-dependent protein Z               | DFAEHLLIPR              | 30.76 | 15.77| Yes         | 3       | Yes     | 48      | Yes     |
| Vitronectin                                 | FEDGVLDPDYPR            | 64.32 | 2747.72| Yes       | 100     | Yes     | 100     | Yes     |
| von Willebrand factor                       | ILAGPAGDSNVVK           | 62.47 | 56.79| Yes         | 21      | Yes     | 73      | Yes     |
| Xaa-Pro dipeptidase                         | AVYEAVLR                | 5.82  | 6.05 | Yes         | 42      | Yes     | 99      | Yes     |
| Zinc-alpha-2-glycoprotein                   | EIPAWVPFDPAAQITK        | 33.85 | 583.75| Yes         | 100     | Yes     | 100     | Yes     |
Supporting Table S2. Discriminating proteins between COVID-19 patients and healthy controls

| Protein name                  | Accession | Gene names                   | Function                                                                 | GO molecular functions                                                                 | GO biological processes                                                                                     |
|-------------------------------|-----------|------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Alpha-1-acid glycoprotein 1   | P02763    | ORM1 AGP1                    | Functions as transport protein in the blood stream. Binds various ligands in the interior of its beta-barrel domain. Also binds synthetic drugs and influences their distribution and availability in the body. Appears to function in modulating the activity of the immune system during the acute-phase reaction. | NA                                                                                       | negative regulation of tumor necrosis factor production; positive regulation of interleukin-1 beta production; positive regulation of tumor necrosis factor production; neutrophil degranulation; platelet degranulation; negative regulation of interleukin-6 production; acute-phase response; regulation of immune system process |
| Alpha-1-antichymotrypsin      | P01011    | SERPINA3 AACT GIG24 GIG25    | Although its physiological function is unclear, it can inhibit neutrophil cathepsin G and mast cell chymase, both of which can convert angiotensin-1 to the active angiotensin-2. | serine-type endopeptidase inhibitor activity; DNA binding                                | negative regulation of endopeptidase activity; neutrophil degranulation; platelet degranulation; maintenance of gastrointestinal epithelium; acute-phase response; regulation of lipid metabolic process |
| Beta-2-microglobulin          | P61769    | B2M CDABP0092 HDCMA22P       | Component of the class I major histocompatibility complex (MHC). Involved in the presentation of peptide antigens to the immune system. Exogenously applied M.tuberculosis EssA or EssA-EssB (or EssA expressed in host) binds B2M and decreases its export to the cell surface (total protein levels do not change), probably leading to defects in class I antigen presentation. | protein homodimerization activity                                                      | negative regulation of neuron projection development; negative regulation of forebrain neuron differentiation; T cell differentiation in thymus; regulation of erythrocyte differentiation; positive regulation of T cell mediated cytotoxicity; positive regulation of T cell cytokine production; regulation of iron ion transport; neutrophil degranulation; iron ion homeostasis; interferon-gamma-mediated signaling pathway; iron ion transport; positive regulation of receptor-mediated endocytosis; protein homotetramerization; cellular response to lipopolysaccharide; antibacterial humoral response; defense response to Gram-negative bacterium; defense response to Gram-positive bacterium; cellular response to iron(III) ion; positive regulation of transferrin receptor binding; positive regulation of cellular senescence; retina homeostasis; antigen processing and presentation of exogenous peptide antigen via MHC class I, TAP-dependent; antigen processing and presentation of exogenous peptide antigen via MHC class I, TAP-independent; antigen processing and presentation of exogenous protein antigen via MHC class Iib, TAP-dependent; regulation of membrane depolarization; negative regulation of epithelial cell proliferation; antimicrobial humoral immune response mediated by antimicrobial peptide; negative regulation of receptor binding; learning or memory; antigen processing and presentation of endogenous peptide antigen via MHC class I; response to cadmium ion; positive regulation of ferrous iron binding; amyloid fibril formation; regulation of defense response to virus by virus; cellular response to nicotine; protein refolding; response to drug; modulation of age-related behavioral decline |
| Carbonic anhydrase 1          | P00915    | CA1                          | Reversible hydration of carbon dioxide. Can hydrates cyanamide to urea.    | zinc ion binding; arylesterase activity; carbonate dehydratase activity                 | bicarbonate transport; interleukin-12-mediated signaling pathway; one-carbon metabolic process                  |
| Protein                                      | P00738 | Q9NQ79 | CRAC1 | ASPC1 | CEP68 | NA | calcium ion binding | NA |
|-----------------------------------------------|--------|--------|-------|-------|-------|----|---------------------|----|
| Haptoglobin                                  | P02748 | C9     | ALDOB | ALDB  |       | NA | complement activation, alternative pathway; complement activation, classical pathway; regulation of complement activation; protein homooligomerization |
| Complement component C9                     | P02741 | CRP PTX1 | ALDB  | ALDOB | ALBP  | NA | complement activation, classical pathway; positive regulation of superoxide anion generation; vasoconstriction; negative regulation of macrophage derived foam cell differentiation; regulation of interleukin-8 production; negative regulation of mononuclear cell proliferation; defense response to Gram-positive bacterium; acute-phase response; opsonization; positive regulation of gene expression; negative regulation of lipid storage; negative regulation by host of viral process; innate immune response |
| C-reactive protein                           | P02741 | CRP PTX1 | ALDB  | ALDOB | ALBP  | NA | negative regulation of peptidase activity; neutrophil degranulation; negative regulation of elastin catabolic process; negative regulation of extracellular matrix disassembly; post-translational protein modification; negative regulation of collagen catabolic process; negative regulation of blood vessel remodeling; amyloid fibril formation; regulation of tissue remodeling; defense response |
| Cystatin-C                                   | P01034 | CST3   |       |       |       | NA | negative regulation of peptidase activity; neutrophil degranulation; negative regulation of elastin catabolic process; negative regulation of extracellular matrix disassembly; post-translational protein modification; negative regulation of collagen catabolic process; negative regulation of blood vessel remodeling; amyloid fibril formation; regulation of tissue remodeling; defense response |
| Cartilage acidic protein 1                  | Q12841 | FSTL1 FRP | ALDB  | ALDOB | ALBP  | NA | sequestering of BMP from receptor via BMP binding; negative regulation of apoptotic process; endothelial cell migration; post-translational protein modification; endothelial cell differentiation; hematopoietic stem cell homeostasis; multicellular organism development |
| Fructose-bisphosphate aldolase B             | P05062 | ALDOB ALDB | ALBP  | ALDOB | ALDB  | NA | fructose-bisphosphate aldolase activity; fructose-1-phosphate aldolase activity; ATPase binding; fructose binding; cytoskeletal protein binding; identical protein binding |
| Haptoglobin                                  | P00738 | HP     |       |       |       | NA | canonical glycolysis; vascular proton-transporting V-type ATPase complex assembly; fructose catabolic process to hydroxacetone phosphate and glyceraldehyde-3-phosphate; gluconeogenesis; positive regulation of ATPase activity; fructose 1,6-bisphosphate metabolic process; NADH oxidation |
| Neutrophil degranulation; negative regulation of hydrogen peroxide catabolic process;zymogen activation; receptor-mediated endocytosis; acute-phase response; defense response to bacterium; positive regulation of cell death; response to hydrogen peroxide; negative regulation of oxidoreductase activity |

Haptoglobin captures, and combines with free plasma hemoglobin to allow hepatic recycling of heme iron and to prevent kidney damage. Haptoglobin also acts as an antioxidant, has antibacterial activity, and plays a role in modulating many aspects of the acute phase response. Hemoglobin/haptoglobin complexes are rapidly accumulated in the kidney and is secreted in the urine. As a result of hemolysis, hemoglobin is found to be transported from damaged circulating cells.

Cystatin-C is an inhibitor of cysteine proteinases, this protein is thought to serve an important physiological role as a local regulator of this enzyme activity. As an inhibitor of cysteine proteinases, this protein is thought to serve an important physiological role as a local regulator of this enzyme activity. As a result of hemolysis, hemoglobin is found to be transported from damaged circulating cells.
cleared by the macrophage CD163 scavenger receptor expressed on the surface of liver Kupffer cells through an endocytic lysosomal degradation pathway; The uncleaved form of allele alpha-2 (2-2), known as zonulin, plays a role in intestinal permeability, allowing intercellular tight junction disassembly, and controlling the equilibrium between tolerance and immunity to non-self antigens.

| Protein                                      | Accession | HBA1; HBA2 | Involved in oxygen transport from the lung to the various peripheral tissues. | iron ion binding; heme binding; oxygen binding; organic acid binding | bicarbonate transport; receptor-mediated endocytosis; cellular oxidant detoxification; positive regulation of cell death; oxygen transport; response to hydrogen peroxide; hydrogen peroxide catabolic process |
|-----------------------------------------------|-----------|------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------|
| Hemoglobin subunit alpha                       | P69905    |            |                                                                                 |                                                                     |                                                                    |
| Insulin-like growth factor-binding protein 2   | P18065    | IGFBP2 BP2 IBP2 | Inhibits IGF-mediated growth and developmental rates. IGF-binding proteins prolong the half-life of the IGFs and have been shown to either inhibit or stimulate the growth promoting effects of the IGFs on cell culture. They alter the interaction of IGFs with their cell surface receptors. | insulin-like growth factor I binding; insulin-like growth factor II binding; signaling receptor binding | positive regulation of activated T cell proliferation; negative regulation of canonical Wnt signaling pathway; regulation of insulin-like growth factor receptor signaling pathway; response to glucocorticoid; response to nutrient; response to lithium ion; response to estradiol; response to retinoic acid; cellular response to hormone stimulus; response to estrogen; cellular protein metabolic process; female pregnancy; response to mechanical stimulus; regulation of growth; response to drug |
| Leucine-rich alpha-2-glycoprotein              | P02750    | LRG1 LRG   | NA                                                                              | transforming growth factor beta receptor binding                     | positive regulation of angiogenesis; positive regulation of transforming growth factor beta receptor signaling pathway; neutrophil degranulation; positive regulation of endothelial cell proliferation; response to bacterium; brown fat cell differentiation |
| Lipopolysaccharide-binding protein             | P18428    | LBP        | Plays a role in the innate immune response. Binds to the lipid A moiety of bacterial lipopolysaccharides (LPS), a glycolipid present in the outer membrane of all Gram-negative bacteria. Acts as an affinity enhancer for CD14, facilitating its association with LPS. Promotes the release of cytokines in response to bacterial lipopolysaccharide. | lipopeptide binding; lipopolysaccharide binding; signaling receptor binding; lipoteichoic acid binding | positive regulation of neutrophil chemotaxis; lipopolysaccharide-mediated signaling pathway; negative regulation of tumor necrosis factor production; positive regulation of tumor necrosis factor production; positive regulation of toll-like receptor 4 signaling pathway; positive regulation of respiratory burst involved in inflammatory response; positive regulation of chemokine production; positive regulation of interferon-gamma production; positive regulation of interleukin-8 production; cellular response to lipoteichoic acid; leukocyte chemotaxis involved in inflammatory response; detection of molecule of bacterial origin; positive regulation of macrophage activation; defense response to Gram-negative bacterium; defense response to Gram-positive bacterium; macrophage activation involved in immune response; acute-phase response; opsonization; lipopolysaccharide transport; cytokine-mediated signaling pathway; positive regulation of cytokinesis; cellular defense response |
| Matrix metalloprotease-9                       | P14780    | MMP9 CLG4B | Matrix metalloproteinase that plays an essential role in local proteolysis of the extracellular matrix and in leukocyte migration. Could play a role in bone osteoclastic resorption (By similarity). Cleaves KISS1 at a Gly-|Leu bond. Cleaves NINJ1 to generate the zinc ion binding; metalloendopeptidase activity; serine-type endopeptidase activity; collagen binding; identical protein binding | negative regulation of cysteine-type endopeptidase activity involved in apoptotic signaling pathway; positive regulation of epidermal growth factor receptor signaling pathway; negative regulation of epithelial cell differentiation involved in kidney |
| Protein Name | Accession | Entrez Gene | Description |
|--------------|-----------|-------------|-------------|
| Secreted ninjurin-1 form. Cleaves type IV and type V collagen into large C-terminal three quarter fragments and shorter N-terminal one quarter fragments. Degrades fibronectin but not laminin or Pr peptide. | | | development; macrophage differentiation; positive regulation of protein phosphorylation; endodermal cell differentiation; neutrophil degranulation; positive regulation of keratinocyte migration; positive regulation of release of cytochrome c from mitochondria; negative regulation of intrinsic apoptotic signaling pathway; negative regulation of cation channel activity; ephrin receptor signaling pathway; cellular response to UV-A; regulation of neuroinflammatory response; positive regulation of vascular associated smooth muscle cell proliferation; cytokine-mediated signaling pathway; extracellular matrix disassembly; cellular response to reactive oxygen species; cellular response to cadmium ion; positive regulation of receptor binding; response to amyloid-beta; skeletal system development; embryo implantation; extracellular matrix organization; positive regulation of DNA binding; leukocyte migration; collagen catabolic process |
| Neutrophil gelatinase-associated lipocalin | P80188 LCN2 HNL NGAL | | iron-trafficking protein involved in multiple processes such as apoptosis, innate immunity and renal development. Binds iron through association with 2,3-dihydroxybenzoic acid (2,3-DHBA), a siderophore that shares structural similarities with bacterial enterobactin, and delivers or removes iron from the cell, depending on the context. Iron-bound form (holo-24p3) is internalized following binding to the SLC22A17 (24p3R) receptor, leading to release of iron and subsequent increase of intracellular iron concentration. In contrast, association of the iron-free form (apo-24p3) with the SLC22A17 (24p3R) receptor is followed by association with an intracellular siderophore, iron chelation and iron transfer to the extracellular medium, thereby reducing intracellular iron concentration. Involved in apoptosis due to interleukin-3 (IL3) deprivation: iron-loaded form increases intracellular iron concentration without promoting apoptosis, while iron-free form decreases intracellular iron levels, inducing expression of the proapoptotic protein BCL2L11/BIM, resulting in apoptosis (By similarity). Involved in innate immunity; limits bacterial proliferation by sequestering iron bound to microbial siderophores, such as enterobactin. Can also bind siderophores from M.tuberculosis. |
| Osteopontin | P10451 SPP1 BNSP PSEC0156 | SPP1 BNSP | Major non-collagenous bone protein that binds tightly to hydroxyapatite. Appears to form an integral part of the mineralized matrix. Probably important to cell-matrix interaction.; Acts as a cytokine involved in enhancing production of interferon-gamma and interleukin-12 and reducing production of interleukin-10 and is essential in the pathway that leads to type I immunity. cytokine activity; integrin binding |
| | | OPN | sequestering of iron ion; cellular iron ion homeostasis; siderophore transport; neutrophil degranulation; positive regulation of cold-induced thermogenesis; cytokine-mediated signaling pathway; defense response to bacterium; innate immune response; antimicrobial humoral response; apoptotic process |
**Peroxisidoxin-2**

| Gene ID | Gene Name | Description |
|---------|-----------|-------------|
| P32119 | PRDX2     | Thiol-specific peroxidase that catalyzes the reduction of hydrogen peroxide and organic hydroperoxides to water and alcohols, respectively. Plays a role in cell protection against oxidative stress by detoxifying peroxides and as sensor of hydrogen peroxide-mediated signaling events. Might participate in the signaling cascades of growth factors and tumor necrosis factor-alpha by regulating the intracellular concentrations of H(2)O(2). |
| NKEF8 TDPX1 |           | thioredoxin peroxidase activity; antioxidant activity |

**Plasma protease C1 inhibitor**

| Gene ID | Gene Name | Description |
|---------|-----------|-------------|
| P05155 | SERPING1 C1IN C1NH | Activation of the C1 complex is under control of the C1-inhibitor. It forms a proteolytically inactive stoichiometric complex with the C1r or C1s proteases. May play a potentially crucial role in regulating important physiological pathways including complement activation, blood coagulation, fibrinolysis and the generation of kinins. Very efficient inhibitor of FXIa. Inhibits chymotrypsin and kallikrein. |
|         |           | serine-type endopeptidase inhibitor activity |

**Pregnancy zone protein**

| Gene ID | Gene Name | Description |
|---------|-----------|-------------|
| P20742 | P2P CPAMD6 | Is able to inhibit all four classes of proteinases by a unique 'trapping' mechanism. This protein has a peptide stretch, called the 'bait region' which contains specific cleavage sites for different proteinases. When a proteinase cleaves the bait region, a conformational change is induced in the protein which traps the proteinase. The entrapped enzyme remains active against low molecular weight substrates (activity against high molecular weight substrates is greatly reduced). Following cleavage in the bait region a thioester bond is hydrolyzed and mediates the covalent binding of the protein to the proteinase. |
|         |           | serine-type endopeptidase inhibitor activity; protease binding |

**Protein S100-A12**

| Gene ID | Gene Name | Description |
|---------|-----------|-------------|
| P80511 | S100A12 | S100A12 is a calcium-, zinc- and copper-binding protein which plays a prominent role in the regulation of inflammatory processes and immune response. Its proinflammatory activity involves recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration. Acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates innate immune cells via binding to receptor for advanced glycation endproducts (AGER). Binding to AGER activates the MAP-kinase and NF-kappa-B signaling pathways leading to production of proinflammatory cytokines and up-regulation of cell adhesion molecules ICAM1 and VCAM1. Acts as a monocyte and mast cell chemoattractant. Can stimulate mast cell |
|         |           | copper ion binding; zinc ion binding; calcium ion binding; RAGE receptor binding; calcium-dependent protein binding |

**Response to steroid hormone; osteoblast differentiation; inflammatory response**

| Activity | Description |
|----------|-------------|
| Activation of MAPK activity; negative regulation of NF-kappaB transcription factor activity; negative regulation of T cell differentiation; negative regulation of lipopolysaccharide-mediated signaling pathway; negative regulation of extrinsic apoptotic signaling pathway in absence of ligand; removal of superoxide radicals; positive regulation of blood coagulation; thymus development; respiratory burst involved in inflammatory response; regulation of hydrogen peroxide metabolic process; T cell proliferation; regulation of apoptotic process; hydrogen peroxide catabolic process; cell redox homeostasis; defense response to tumor cell; homeostasis of number of cells |

| Activity | Description |
|----------|-------------|
| Negative regulation of complement activation, lectin pathway; negative regulation of endopeptidase activity; fibrinolysis; platelet degranulation; complement activation, classical pathway; blood coagulation, intrinsic pathway; blood circulation |

| Activity | Description |
|----------|-------------|
| Female pregnancy |

| Activity | Description |
|----------|-------------|
| Positive regulation of NF-kappaB transcription factor activity; positive regulation of MAP kinase activity; neutrophil chemotaxis; neutrophil degranulation; positive regulation of T-kappaB kinase/NF-kappaB signaling; monocyte chemotaxis; positive regulation of inflammatory response; defense response to bacterium; innate immune response; defense response to fungus; antimicrobial humoral immune response mediated by antimicrobial peptide; xenobiotic metabolic process; mast cell activation; killing of cells of other organism |
degranulation and activation which generates chemokines, histamine and cytokines inducing further leukocyte recruitment to the sites of inflammation. Can inhibit the activity of matrix metalloproteinases; MMP2, MMP3 and MMP9 by chelating Zn(2+) from their active sites. Possesses filariacidal and filariastatic activity. Calcterm in possesses antifungal activity against C.albicans and is also active against E.coli and P.aeruginosa but not L.monocytogenes and S.aureus.

Protein S100-A9  P06702  S100A9 
CAGB CFAG MRP14  S100A9 is a calcium- and zinc-binding protein which plays a prominent role in the regulation of inflammatory processes and immune response. It can induce neutrophil chemotaxis, adhesion, can increase the bactericidal activity of neutrophils by promoting phagocytosis via activation of SYK, PI3K/AKT, and ERK1/2 and can induce degranulation of neutrophils by a MAPK-dependent mechanism. Predominantly found as calprotectin (S100A8/A9) which has a wide plethora of intra- and extracellular functions. The intracellular functions include: facilitating leukocyte arachidonic acid trafficking and metabolism, modulation of the tubulin-dependent cytoskeleton during migration of phagocytes and activation of the neutrophilic NADPH-oxidase. Activates NADPH-oxidase by facilitating the enzyme complex assembly at the cell membrane, transferring arachidonic acid, an essential cofactor, to the enzyme complex and S100A8 contributes to the enzyme assembly by directly binding to NCF2/P67PHOX. The extracellular functions involve proinflammatory, antimicrobial, oxidant-scavenging and apoptosis-inducing activities. Its proinflammatory activity includes recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration. Acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates innate immune cells via binding to pattern recognition receptors such as Toll-like receptor 4 (TLR4) and receptor for advanced glycation endproducts (AGER). Binding to TLR4 and AGER activates the MAP-kinase and NF-kappa-B signaling pathways resulting in the amplification of the proinflammatory cascade. Has antimicrobial activity towards bacteria and fungi and exerts its antimicrobial activity probably via chelation of Zn(2+) which is essential for microbial growth. Can induce cell death via autophagy and apoptosis and this occurs through the cross-talk of mitochondria and lysosomes via reactive oxygen species (ROS) and the process involves BNIP3. Can regulate neutrophil number and apoptosis by an anti-apoptotic effect; regulates cell survival via ITGAM/ITGB and TLR4 and a signaling mechanism involving MEK-ERK. Its role as arachidonic acid binding; zinc ion binding; calcium ion binding; microtubule binding; Toll-like receptor 4 binding; RAGE receptor binding; calcium-dependent protein binding; antioxidant activity 
activation of cysteine-type endopeptidase activity involved in apoptotic process; positive regulation of NF-kappaB transcription factor activity; positive regulation of neuron projection development; sequestering of zinc ion; astrocyte development; peptidyl-cysteine S-trans-nitrosylation; neutrophil chemotaxis; neutrophil degranulation; positive regulation of intrinsic apoptotic signaling pathway; response to lipopolysaccharide; regulation of integrin biosynthetic process; positive regulation of inflammatory response; toll-like receptor signaling pathway; leukocyte migration involved in inflammatory response; positive regulation of cell growth; defense response to bacterium; innate immune response; defense response to fungus; regulation of cytoskeleton organization; antimicrobial humoral immune response mediated by antimicrobial peptide; neutrophil aggregation; chronic inflammatory response; autophagy; autocrine signaling
| Protein_deglycase_DJ-1 | Q99497 | PARK7 |
|-----------------------|--------|-------|
| **Multifunctional protein with controversial molecular function which plays an important role in cell protection against oxidative stress and cell death acting as oxidative stress sensor and redox-sensitive chaperone and protease.** It is involved in neuroprotective mechanisms like the stabilization of NFE2L2 and PINK1 proteins, male fertility as a positive regulator of androgen signaling pathway as well as cell growth and transformation through, for instance, the modulation of NF-kappa-B signaling pathway. Has been described as a protein and nucleotide deglycase that catalyzes the deglycation of the Maillard adducts formed between amino groups of proteins or nucleotides and reactive carbonyl groups of proteins. But this function is rebutted by other works. As a protein deglycase, repairs methylglyoxal- and glyoxal-glycated proteins, and releases repaired proteins and lactate or glycolate, respectively. Deglycates cysteine, arginine and lysine residues in proteins, and thus reactivates these proteins by reversing glycation by glyoxals. Acts on early glycation intermediates (hemithioacetals and aminocarbinols), preventing the formation of advanced glycation endproducts (AGE) that cause irreversible damage. Also functions as a nucleotide deglycase able to repair glycated guanine in the free nucleotide pool (GTP, GDP, GMP, dGTP) and in DNA and RNA. Is thus involved in a major nucleotide repair system named guanine glycation repair (GG repair), dedicated to reversing methylglyoxal and glyoxal damage via nucleotide sanitization and direct nucleic acid repair. Protects histones from adduction by methylglyoxal, controls the levels of methylglyoxal-derived arginine modifications on chromatin. Able to remove the glycations and restore histone 3, histone glycation disrupts both local and global chromatin architecture by altering histone-DNA interactions as well as histone acetylation and ubiquitination levels. Displays a very low glyoxalase activity that may reflect its deglycase activity. |
| Superoxide dismutase copper chaperone activity; androgen receptor binding; cupric ion binding; cuprous ion binding; mercury ion binding; mRNA binding; protein deglycase activity; repressing transcription factor binding; ubiquitin-specific protease binding; glyoxalase (glyceraldehyde-forming) activity; transcription coactivator activity; oxygen sensor activity; kinase binding; tyrosine 3-monooxygenase activator activity; L-dopa decarboxylase activator activity; protein homodimerization activity; small protein activating enzyme binding; ubiquitin-like protein conjugating enzyme binding; cadherin binding; peroxiredoxin activity; peptidase activity; cytokine binding; scaffold protein binding |
| Negative regulation of hydrogen peroxide-induced neuron intrinsic apoptotic signaling pathway; positive regulation of androgen receptor activity; negative regulation of cysteine-type endopeptidase activity involved in apoptotic signaling pathway; activation of protein kinase B activity; negative regulation of proteasomal ubiquitin-dependent protein catabolic process; regulation of histone acetylation; positive regulation of transcription by RNA polymerase II; negative regulation of ubiquitin-protein transferase activity; positive regulation of superoxide dismutase activity; negative regulation of protein K48-linked deubiquitination; positive regulation of peptidyl-serine phosphorylation; regulation of histone ubiquitination; negative regulation of protein sumoylation; negative regulation of protein export from nucleus; positive regulation of mitochondrial electron transport, NADH to ubiquinone; negative regulation of TRAIL-activated apoptotic signaling pathway; positive regulation of L-dopa biosynthetic process; positive regulation of oxidative phosphorylation uncoupler activity; negative regulation of protein kinase activity; regulation of androgen receptor signaling pathway; negative regulation of protein acetylation; positive regulation of oxidative stress-induced intrinsic apoptotic signaling pathway; negative regulation of endoplasmic reticulum stress-induced intrinsic apoptotic signaling pathway; negative regulation of ubiquitin-specific protease activity; positive regulation of acute inflammatory response to antigenic stimulus; insulin secretion; peptidyl-cysteine deglycation; peptidyl-arginine deglycation; peptidyl-lysine deglycation; protein deglycation, glyoxal removal; protein deglycation, methylglyoxal removal; dopamine uptake involved in synaptic signaling pathway; negative regulation of NF-kappa-B, Bcl-2, Bcl-xL, Bim; protection against oxidative stress and cell death acting as oxidative stress sensor and redox-sensitive chaperone and protease. It is involved in neuroprotective mechanisms like the stabilization of NFE2L2 and PINK1 proteins, male fertility as a positive regulator of androgen signaling pathway as well as cell growth and transformation through, for instance, the modulation of NF-kappa-B signaling pathway. Has been described as a protein and nucleotide deglycase that catalyzes the deglycation of the Maillard adducts formed between amino groups of proteins or nucleotides and reactive carbonyl groups of proteins. But this function is rebutted by other works. As a protein deglycase, repairs methylglyoxal- and glyoxal-glycated proteins, and releases repaired proteins and lactate or glycolate, respectively. Deglycates cysteine, arginine and lysine residues in proteins, and thus reactivates these proteins by reversing glycation by glyoxals. Acts on early glycation intermediates (hemithioacetals and aminocarbinols), preventing the formation of advanced glycation endproducts (AGE) that cause irreversible damage. Also functions as a nucleotide deglycase able to repair glycated guanine in the free nucleotide pool (GTP, GDP, GMP, dGTP) and in DNA and RNA. Is thus involved in a major nucleotide repair system named guanine glycation repair (GG repair), dedicated to reversing methylglyoxal and glyoxal damage via nucleotide sanitization and direct nucleic acid repair. Protects histones from adduction by methylglyoxal, controls the levels of methylglyoxal-derived arginine modifications on chromatin. Able to remove the glycations and restore histone 3, histone glycation disrupts both local and global chromatin architecture by altering histone-DNA interactions as well as histone acetylation and ubiquitination levels. Displays a very low glyoxalase activity that may reflect its deglycase activity. |
| Protein | Accession | Function | Additional Information |
|---------|-----------|----------|------------------------|
| Serum amyloid A-1 and A-2 proteins | P0DJ8 SAA1 | Major acute phase protein. | Eliminates hydrogen peroxide and protects cells against hydrogen peroxide-induced cell death. Required for correct mitochondrial morphology and function as well as for autophagy of dysfunctional mitochondria. Plays a role in regulating expression or stability of the mitochondrial uncoupling proteins SLC25A14 and SLC25A27 in dopaminergic neurons of the substantia nigra pars compacta and attenuates the oxidative stress induced by calcium entry into the neurons via L-type channels during pacemaking. Regulates astrocyte inflammatory responses, may modulate lipid rafts-dependent endocytosis in astrocytes and neuronal cells. In pancreatic islets, involved in the maintenance of mitochondrial reactive oxygen species (ROS) levels and glucose homeostasis in an age- and diet dependent manner. Protects pancreatic beta cells from cell death induced by inflammatory and cytotoxic setting (By similarity). Binds to a number of mRNAs containing multiple copies of GG or CC motifs and partially inhibits their translation but dissociates following oxidative stress. Metal-binding protein able to bind copper as well as toxic mercury ions, enhances the cell protection mechanism against induced metal toxicity. In macrophages, interacts with the NADPH oxidase subunit NCF1 to direct NADPH oxidase-dependent ROS production, and protects against sepsis (By similarity). |
| Serum amyloid P-component | P02743 APCS PTX2 | Can interact with DNA and histones and may scavenge nuclear material released from damaged circulating cells. May also function as a calcium-dependent lectin. | Calcium ion binding; low-density lipoprotein particle binding; complement component C1q complex binding; identical protein binding; unfolded protein binding |

G protein-coupled receptor binding; heparin binding

activation of MAPK activity; positive regulation of cytosolic calcium ion concentration; neutrophil chemotaxis; regulation of protein secretion; positive regulation of interleukin-1 production; macrophage chemotaxis; lymphocyte chemotaxis; negative regulation of inflammatory response; receptor-mediated endocytosis; acute-phase response; cytokine-mediated signaling pathway; platelet activation; innate immune response; G protein-coupled receptor signaling pathway; positive regulation of cell adhesion; amyloid fibril formation

negative regulation of monocyte differentiation; negative regulation by host of viral exo-alpha-sialidase activity; negative regulation of acute inflammatory response; complement activation, classical pathway; negative regulation by host of viral glycoprotein metabolic process; negative regulation of viral entry into host cell; chaperone-mediated protein complex assembly; negative regulation of wound healing; acute-phase response; innate immune response; negative regulation of exo-alpha-sialidase activity; amyloid fibril formation

transmission; guanine deglycation, methylglyoxal removal; guanine deglycation, glyoxal removal; positive regulation of autophagy of mitochondrion; positive regulation of interleukin-8 production; positive regulation of protein kinase B signaling; methylglyoxal catalytic process to lactate; positive regulation of protein localization to nucleus; DNA repair; protein deglycosylation; Rac protein signal transduction; detoxification of copper ion; positive regulation of protein-containing complex assembly; aggrephagy; glutathione degradacy; cellular response to hydrogen peroxide; positive regulation of tyrosine 3-monooxygenase activity; negative regulation of reactive oxygen species biosynthetic process; positive regulation of reactive oxygen species biosynthetic process; single fertilization; negative regulation of gene expression; positive regulation of NAD(P)H oxidase activity; cellular response to glyoxal; glucose homeostasis; regulation of inflammatory response; detoxification of mercury ion; positive regulation of pyrroline-5-carboxylate reductase activity; positive regulation of L-dopa decarboxylase activity; positive regulation of transcription regulatory region DNA binding; negative regulation of protein binding; regulation of supramolecular fiber organization; hydrogen peroxide metabolic process; protein stabilization; regulation of mitochondrial membrane potential; membrane depolarization; membrane hyperpolarization; detection of oxidative stress; adult locomotory behavior

sialidase activity; amyloid fibril formation; immune response; negative regulation of exo-alpha-sialidase activity; negative regulation of acute inflammatory response; complement activation, classical pathway; negative regulation by host of viral glycoprotein metabolic process; negative regulation of viral entry into host cell; chaperone-mediated protein complex assembly; negative regulation of wound healing; acute-phase response; innate immune response; negative regulation of exo-alpha-sialidase activity; amyloid fibril formation

methylglyoxal catabolic process to lactate; positive regulation of protein kinase B signaling; negative regulation of protein localization to nucleus; DNA repair; protein deglycosylation; Rac protein signal transduction; detoxification of copper ion; positive regulation of NAD(P)H oxidase activity; cellular response to hydrogen peroxide; positive regulation of tyrosine 3-monooxygenase activity; negative regulation of reactive oxygen species biosynthetic process; positive regulation of reactive oxygen species biosynthetic process; single fertilization; negative regulation of gene expression; positive regulation of NAD(P)H oxidase activity; cellular response to glyoxal; glucose homeostasis; regulation of inflammatory response; detoxification of mercury ion; positive regulation of pyrroline-5-carboxylate reductase activity; positive regulation of L-dopa decarboxylase activity; positive regulation of transcription regulatory region DNA binding; negative regulation of protein binding; regulation of supramolecular fiber organization; hydrogen peroxide metabolic process; protein stabilization; regulation of mitochondrial membrane potential; membrane depolarization; membrane hyperpolarization; detection of oxidative stress; adult locomotory behavior
| Protein                  | EC Number | Gene Symbol | Description                                                                                                                                                                                                 | Functions                                                                                                                                                                                                                                                                 |
|-------------------------|-----------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Serum paraoxonase/lactonase 3 | Q15166    | PON3        | Has low activity towards the organophosphate paraxon and aromatic carboxylic acid esters. Rapidly hydrolyzes lactones such as statin prodrugs (e.g. lovastatin). Hydrolyzes aromatic lactones and 5- or 6-member ring lactones with aliphatic substituents but not simple lactones or those with polar substituents. | Aryldiacylphosphatase activity; acyl-L-homoserine-lactone lactonohydrolase activity; arylolesterase activity; 3,4-dihydrocoumarin hydrolase activity; protein homodimerization activity; metal ion binding                                                                                           |
| SPARC                   | P09486    | SPARC ON    | Appears to regulate cell growth through interactions with the extracellular matrix and cytokines. Binds calcium and copper, several types of collagen, albumin, thrombospondin, PDGF and cell membranes. There are two calcium binding sites; an acidic domain that binds S to 8 Ca(2+) with a low affinity and an EF-hand loop that binds a Ca(2+) ion with a high affinity. | Calcium ion binding; collagen binding                                                                                                                                                                                                                                   | Negative regulation of angiogenesis; positive regulation of endothelial cell migration; platelet degranulation; inner ear development; negative regulation of endothelial cell proliferation; lung development; response to lipopolysaccharide; response to L-ascorbic acid; response to glucocorticoid; receptor-mediated endocytosis; heart development; response to peptide hormone; regulation of synapse organization; response to cAMP; response to lead ion; regulation of cell morphogenesis; extracellular matrix organization; response to ethanol; response to cadmium ion; response to calcium ion; response to cytokine; wound healing; response to gravity |
| Thrombospondin-1       | P07996    | THBS1 TSP TSP1 | Adhesive glycoprotein that mediates cell-to-cell and cell-to-matrix interactions. Binds heparin. May play a role in dentinogenesis and/or maintenance of dentin and dental pulp (By similarity). Ligand for COX6 mediating antiangiogenic properties. Plays a role in ER stress response, via its interaction with the activating transcription factor 6 alpha (ATF6) which produces adaptive ER stress response factors (By similarity). | Phosphatidylserine binding; calcium ion binding; low-density lipoprotein particle binding; integrin binding; heparin binding; fibroblast growth factor binding; transforming growth factor beta binding; collagen V binding; fibronectin binding; identical protein binding; laminin binding; proteoglycan binding; fibrinogen binding | Negative regulation of long-chain fatty acid import across plasma membrane; activation of MAPK activity; negative regulation of cell migration involved in sprouting angiogenesis; negative regulation of blood vessel endothelial cell proliferation involved in sprouting angiogenesis; negative regulation of cysteine-type endopeptidase activity involved in apoptotic process; positive regulation of angiogenesis; negative regulation of fibrinolysis; negative regulation of GMP-mediated signaling; negative regulation of plasminogen activation; positive regulation of macrophage chemotaxis; positive regulation of transforming growth factor beta receptor signaling pathway; negative regulation of fibroblast growth factor receptor signaling pathway; positive regulation of blood vessel endothelial cell migration; regulation of megakaryocyte differentiation; positive regulation of extrinsic apoptotic signaling pathway via death domain receptors; negative regulation of endothelial cell chemotaxis; negative regulation of nitric oxide mediated signal transduction; positive regulation of tumor necrosis factor production; positive regulation of transforming growth factor beta1 production; positive regulation of translation; negative regulation of focal adhesion assembly; positive regulation of endothelial cell apoptotic process; negative regulation of extrinsic apoptotic signaling pathway; platelet degranulation; positive regulation of fibroblast migration; negative regulation of interleukin-12 production; positive regulation of phosphorylation; engulfment of apoptotic cell; positive regulation of protein kinase B signaling; response to glucose; peptide cross-linking; positive regulation of phosphatidylserine binding; calcium ion binding; low-density lipoprotein particle binding; integrin binding; heparin binding; fibroblast growth factor binding; transforming growth factor beta binding; collagen V binding; fibronectin binding; identical protein binding; laminin binding; proteoglycan binding; fibrinogen binding |
| Vascular cell adhesion protein 1 | P19320 | VCAM1 | Important in cell-cell recognition. Appears to function in leukocyte-endothelial cell adhesion. Interacts with integrin alpha-4/beta-1 (ITGA4/ITGB1) on leukocytes, and mediates both adhesion and signal transduction. The VCAM1/ITGA4/ITGB1 interaction may play a pathophysiologic role both in immune responses and in leukocyte emigration to sites of inflammation. | primary amine oxidase activity; integrin binding |
| von Willebrand factor | P04275 | VWF F8/VWF | Important in the maintenance of hemostasis, it promotes adhesion of platelets to the sites of vascular injury by forming a molecular bridge between sub-endothelial collagen matrix and platelet-surface receptor complex GPIb-IX-V. Also acts as a chaperone for coagulation factor VIII, delivering it to the site of injury, stabilizing its heterodimeric structure and protecting it from premature clearance from plasma. | protease binding; integrin binding; collagen binding; immunoglobulin binding; identical protein binding; protein N-terminus binding; chaperone binding |

regulation of macrophage activation; negative regulation of antigen processing and presentation of peptide or polysaccharide antigen via MHC class II; negative regulation of dendritic cell antigen processing and presentation; cell cycle arrest; response to progesterone; positive regulation of smooth muscle cell proliferation; cellular response to tumor necrosis factor; positive regulation of reactive oxygen species metabolic process; response to hypoxia; chronic inflammatory response; response to unfolded protein; extracellular matrix organization; response to magnesium ion; response to testosterone; cellular response to heat; behavioral response to pain; response to calcium ion; response to endoplasmic reticulum stress; response to mechanical stimulus; response to drug; primary amine oxidase activity; integrin binding; collagen binding; immunoglobulin binding; identical protein binding; protein N-terminus binding; chaperone binding; platelet degranulation; blood coagulation, intrinsic pathway; platelet activation; extracellular matrix organization; cell-substrate adhesion.
| Group | Group members                                                                                                                                                                                                 | Trend                      |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 1     | 78 kDa glucose-regulated protein; Apolipoprotein C-II; Cathelicidin antimicrobial peptide; Coagulation factor XIII A chain; Collagen alpha-1(VIII) chain; Fibronectin; Follistatin-related protein 1; Fructose-bisphosphate aldolase B; Haptoglobin; Heparin cofactor 2; Ig gamma-1 chain C region; Ig mu chain C region; Ig mu heavy chain disease protein and Ig mu chain C; Intercellular adhesion molecule 1; Lumican; Lysozyme C; Mannose-binding protein C; Neurilin-2; Phospholipid transfer protein; Plasma serine protease inhibitor; Target of Nesh-SH3; Tetranectin; Thrombospondin-1; Vasorin; Xaa-Pro dipeptidase   | increase                   |
| 2     | Actin, aortic smooth muscle; Alpha-1B-glycoprotein; Antithrombin-III; Attractin; Beta-Ala-His dipeptidase; Ceruloplasmin; Coagulation factor V; Complement C1q subcomponent subunit B; Complement C1q subcomponent subunit C; Complement C1r subcomponent; Complement C1r subcomponent-like protein; Complement C5; Complement component C8 beta chain; Complement factor I; Extracellular matrix protein 1; Fibrinogen alpha chain; Fibrinogen beta chain; Fibrinogen gamma chain; Fibulin-1; Gelosin; Hemopexin; Inter-alpha-trypsin inhibitor heavy chain H4; Mannan-binding lectin serum protease 1; Mannan-binding lectin serum protease 2A; Metalloproteinase inhibitor 2; N-acetylmuramoyl-L-alanine amidase; Plasma protease C1 inhibitor; Sex hormone-binding globulin; Tenascin; Vascular cell adhesion protein 1; Vitamin K-dependent protein S; Vitamin K-dependent protein Z | rapid decrease followed by recovery |
| 3     | Coagulation factor XI; Matrix Gla protein                                                                                                                                                                      |                            |
| 4     | Adipocyte plasma membrane-associated protein; C4b-binding protein alpha chain; Carboxypeptidase N catalytic chain; Carboxypeptidase N subunit 2; Complement C1q subcomponent subunit A; Complement component C6; Ficolin-3; Galectin-3-binding protein; Immunoglobulin kappa variable 4-1; Inter-alpha-trypsin inhibitor heavy chain H1; Plasminogen; Serum amyloid P-component | rapid decrease in followed by recovery |
| 5     | Carbonic anhydrase 1; Hemoglobin subunit alpha; Neutrophil gelatinase-associated lipocalin; Peroxiredoxin-2; Protein S100-A9                                                                                                                                                           | rapid decrease in followed by partial recovery |
| 6     | Afamin; Alpha-2-HS-glycoprotein; Apolipoprotein A-I; Apolipoprotein A-IV; Apolipoprotein B-100; Apolipoprotein C-I; Apolipoprotein C-III; Apolipoprotein M; Beta-2-glycoprotein 1; Biotinidase; Carboxypeptidase B2; CD44 antigen; Coagulation factor IX; Coagulation factor XII; Coagulation factor XIII B chain; Cystatin-C; Glutathione peroxidase 3; Histidine-rich glycoprotein; IgGfc-binding protein; Insulin-like growth factor-binding protein 2; Inter-alpha-trypsin inhibitor heavy chain H2; Kallistatin; Kinogen-1; Osteopontin; Phosphatidylinositol-glycan-specific phospholipase D; Pigment epithelium-derived factor; Proteoglycan 4; Retinol-binding protein 4; Transthyretin; Vitamin K-dependent protein C; von Willebrand factor; Zinc-alpha-2-glycoprotein | Fluctuating/steady around initial level |
| 7     | Adhesion G protein-coupled receptor F5; Alpha-1-acid glycoprotein 1; Alpha-1-antichymotrypsin; Apolipoprotein A-II; Complement C2; Complement component C8 alpha chain; Complement component C9; Complement factor B; Complement component C4; C-reactive protein; Lactotransferrin; Leucine-rich alpha-2-glycoprotein; Lipopolysaccharide-binding protein; L-selectin; Matrix metalloproteinase-9; Protein_deglycase Dj-1; Serum amyloid A-1 and A-2 proteins; Serum amyloid A-4 proteins; Vitronectin | Fluctuating/steady around initial level |
| 8     | Adiponectin; Alpha-2-macroglobulin; Apolipoprotein D; Apolipoprotein L1; Apolipoprotein(a); Beta-2-microglobulin; Cadherin-5; cDNA FLJ53327, highly similar to Gelosin (NOT REVIEWED); Cholinesterase; Complement factor H; Insulin-like growth factor-binding protein 2; Insulin-like growth factor-binding protein complex acidic labile subunit; Protein AMBP; SPARC | sudden decrease followed by an increase |
| 9     | Alpha-1-antitrypsin; Alpha-2-antiplasmin; Apolipoprotein C-IV; Apolipoprotein E; Apolipoprotein F; Cartilage acidic protein 1; Clustatin; Complement C1s subcomponent; Complement C1s subcomponent; Complement C3; Complement component C7; Corticosteroid-binding globulin; Di-N-acetylgalactosamidase; Fetuin-B; Hyaluronan-binding protein 2; Plasminogen; Pregnancy zone protein; Protein S100-A12; Protein Z-dependent protease inhibitor; Prothrombin; Serotransferrin; Serum albumin; Serum paraoxonase/arylesterase 1; Serum paraoxonase/lactonase 3; Thyroxine-binding globulin; Vitamin D-binding protein | decrease |
Supporting Table S4. Identified proteins using MRM and DIA

| Protein name | Protein accession | Gene name | MRM number of peptides | MRM peptides | DIA number of peptides | DIA peptides | Detected in MRM | Detected in DIA |
|--------------|--------------------|-----------|------------------------|--------------|------------------------|--------------|----------------|----------------|----------------|
| Adipocyte plasma membrane-associated protein | Q9HDC9 | APMAP | 1 | LLEYDTVR | 1 | SLHDGDPGLVATYSEHVDHGHLYLGSF | Yes | Yes |
| Adiponectin | Q15848 | ADIPOQ | 1 | IFYQOQN HYDGSTGK | 1 | IFYQOQNHYDGSTGK | Yes | Yes |
| Afamin | P43652 | AFM | 1 | DADPDFG FAX | 8 | AIPVTQYLK;ESLLNHLFYELVAR;FTFEYRS;JAPQLSTEELVLGK;KSDVGLFPLPPFLDPEP;LFNVNQLQK;PNDFVAP | Yes | Yes |
| Alpha-1-acid glycoprotein 1 | P02763 | ORM1 | 1 | NWGLSVY ADKPETT | 7 | EQLGEFYEADC+[57.021464]+[R];NWGLSVYADKPETT;SDVYVTDWK;SDVYVTDWIK;TYMALFDVNEK;TYMVAF | Yes | Yes |
| Alpha-1-antichymotrypsin | P01011 | SERPINA3 | 1 | EIGELYPK | 21 | AKWEMPFDQDQTHQSR;AKWEM+[15.994915]+PFDPDQDQTHQSR;AVLDFVEEGETEASAAATVK;DEELSC+[57.021464]+[T]VVEL;DYNLNDILLQLGIEEAFTSK;EIGELYPK;EQLSLDLDR;EQLSDDRFDTEADK;GTHVDLGLASANVDFAFL | Yes | Yes |
| Alpha-1-antitrypsin | P01009 | SERPINA1 | 1 | SVGLQGGLI TK | 27 | AVLIDIK;DTEEFIDHVDQDQTVT;DVTDFALVNYIFF;ELDROTDVFALVNYIFF;FLEDVFK;FLENDREDR;FJNGRPFVLM+[57.15.994915]+[Q]NKNTG;TEAGAMFMLEASEIM+[57.15.994915]+[SPPEVK;GTEAGAM]+[57.15.994915]+[J]EIELPAK;IPK;EQLSDFTEADK;GTHVDLGLASANVDFAFL;JL;LIDLYKY;LIDLYKF;LIDLYKFQATDFCQAASA;MEEVAMLIPLT|Yes|Yes|
| Alpha-1-antitrypsin | P04217 | A1BG | 1 | LETPDPQDL FK | 8 | ATWSGAVLGR;HQLFQTLGDQTGR;LHDONGWSGDAPVIELSDTLPAFVPSPEESGR;LHLSTGPK;NGVAQGEP | Yes | Yes |
| Alpha-2-antiplasmin | P08697 | SERPIN2 | 1 | LGNZLPQS GQTALK | 7 | DSFLIDQFTVPMVEQMQAR;GQESQLQGVQDHGQSL;ELEGVAAATSSAM+[57.15.994915]+[SR];HOMILQVLATSQGLQAFQADLR;HQML+[57.15.994915]+DLVTALSQGLQELQFGAPDLR;QEDDLANINQVWQ;QTLSGPNQEOQVSP | Yes | Yes |
| Alpha-2-HS-glycoprotein | P02765 | AHSG | 1 | FSVVYAK | 3 | HTFMGVQSVLSGPSGEVSHPR;HTMG+[57.15.994915]+GVSGLGPSGEVSHPR;HNLNIQDEVK | Yes | Yes |
| Alpha-2-macroglobulin | P01023 | A2M | 1 | AIGVLYNTG YQR | 52 | ADAQTVTQGSGTFSSK;AIGVLYNTGQGR;ALLAYAFAALAGNQDK;APVGHYPEQAPSAEVMTSYVLLAY;TAQAPTPSEQTLSATNVV;AVDQVLMLPKDAELSASSYSYNLPEK;AVDQVSLVM+[57.15.994915]+[K]FADELSASSYSYNLPEK;AYFIDEAHAUTQLILWQR;DMYSLFEDMGQR;DM+[57.15.994915]+[Y]SFLEDMGQR;FVQVTPVK;FQDOVRNR;GHFSISIPVK;HNWYINGRTTVPSTSEHKY;KHDYGSSTFGER;JAGQWQFQLEQLGQ;LHTEAQIQEGFTQVELTVGLKL;LIVAYLPTG | Yes | Yes |
| Angiotensinogen | P01019 | AGT | 1 | ALQDQLV LVAAK | 11 | ADSQAOILVLTVGQFAGTPNLGKL;ALQDQLVLAIAK;QPTFIPAPIQAK;FMQVATGQK;FM+[57.15.994915]+QAVTG | Yes | Yes |
| Antithrombin-III | P01008 | SERPINC1 | 1 | DDLYVSDFAHK | 19 | AFLEVNEEGSEAA5ASTAVI4GR;DDLYVSDFAHK;EQLQDMGLVDFSPDK;EQLQDM[+15.994915]G;DDLYVSDFPK;EVLPLTMTFGMR;EVLPLTMTFGMR;[+15.994915]GR;FATTQGDLFADSDK;FDTSEK;FIZEDGFLSK;GDDTMVFLVDPKPEK;GDDTMVFLVDPKPEK;[+15.994915]VLIPKPEK;FDJGSFL;LPIVAEGRA;RVAEGTVLVEIPF;RVAEGTVLVEIPF;RVAEGTVLVEIPFKGDDTMV ILPKPEK;SKLPGVAGRDLDDLVSDFAHK;TSDQHFHF;VAEGTQLVLEIPFK;VAEGTQLVLEIPFKGDDTMVIT | Yes | Yes |
| Apolipoprotein A-I | P02647 | APOA1 | 1 | ATEHLSLEEK | 22 | AELQEGAR;AEHLDAHLPVLPSDLEL;AKPALELD;APKAELDLQGLLVPVELPSD;AEHLTSLSEK;DLATVVYDVLDK;DSGRQDYSQFEGASG;EQLQDMGLVDFSPDK;EQLQDMLYVSDFPK;EQLQDMGLVDFSPDK;EQLQDMGLVDFSPDK;EQLQDMGLVDFSPDK;EQLQDMGLVDFSPDK | Yes | Yes |
| Apolipoprotein A-II | P02652 | APOA2 | 1 | SPELQAEEK | 2 | EPC[+57.021464]TLQK;EPC[+57.021464]TLQK | Yes | Yes |
| Apolipoprotein B-100 | P04114 | APOB | 1 | FPEVDVLTK | 126 | AASGTTGTYQEWK;ADSVVDLLSYNVQGSGETTYDHK;AEPLAFTFSHDYK;AHLDIAGSLEGHLR;ALVEQGFTVPEI;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPDSL;ALYWVNGQPPLLPS | Yes | Yes |
| Apolipoprotein C-I | P02654 | APOC1 | 1 | EWFSETFQK | 3 | EFGNTLEK;EWFSETQF;[+15.994915]GJREWFSFTQQK | Yes | Yes |
| Apolipoprotein C-II | P02655 | APOC2 | 1 | TYLPADVDEE | 3 | ELSSSYYSESAK;TAQAQLNYYKE;TYLPADV;TYLPADV | Yes | Yes |
| Apolipoprotein C-III | P02656 | APOC3 | 1 | GWVTDGFSFLK | 3 | DALSSQVESQVAQQAR;DYWSTVKG;GWVTDGFSFLK | Yes | Yes |
| Apolipoprotein D | P02657 | APOD | 1 | SGVQQLIQYQQDQK | 1 | SGVQQLIQYQQDQK | Yes | Yes |
| Apolipoprotein E | P02649 | APOE | 1 | GLQPMVEQGR | 15 | ATVGSGLAGQPLGER;GEVQAM[+15.994915]G;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGITMVI;LQGISLQM;LQGISLQM;LQGISLQM;LQGISLQM| Yes | Yes |
| Protein Name                        | Accession | UniProt ID | Description | Map View | Chromosome | Genomic Location | Functional Domain | Transcript ID | Expression | Location | Status | Location | Status |
|-------------------------------------|-----------|------------|-------------|-----------|------------|-----------------|-------------------|---------------|-----------|----------|--------|----------|--------|
| Apolipoprotein L1                    | O14791    | APO1       | 1           | VAQUEEK   | 4          | EFLGENISNFLSLAGNTYQLTR;LNIINNNYK;VSTQNLLLLLTDNEAUNGFVAAAEPLR;VTIEPIASEGEOVER | Yes              | Yes         |          |          |        |          |        |
| Apolipoprotein M                     | Q95445    | APOM       | 1           | AFLITPR   | 2          | AFLITPR;WYHTLSTEDTLR | Yes              | Yes         |          |          |        |          |        |
| Apolipoprotein( a)                  | P08519    | LPA        | 1           | GTYSTTVTGR| 2          | GTYSTTVTGR;LFLEPTQADIALLK | Yes              | Yes         |          |          |        |          |        |
| Attractin                           | O75882    | ATRN       | 1           | SVNNVVVR  | 2          | ALYVHGGYK;LTLTPWVGLR | Yes              | Yes         |          |          |        |          |        |
| Beta-2-glycoprotein 1                | P02749    | APOH       | 1           | ATVVYQGER | 2          | ATVVYQGER;EHSSLAFWK | Yes              | Yes         |          |          |        |          |        |
| Beta-Ala-His dipetidase              | P61769    | B2M        | 1           | VHIVTLP   | 1          | VHVIVTLP | Yes              | Yes         |          |          |        |          |        |
| Biotinidase                         | P43251    | BTD        | 1           | SHIIAQVK  | 1          | SHIIAQVK | Yes              | Yes         |          |          |        |          |        |
| C4b-binding protein alpha chain     | P04003    | C4BPA      | 1           | EDVYVVGT  | 5          | EDVYVVGT;KPDVSHGEMVSFGFIPYNYK;KPDVSHGEM [+15.994915]YSGFIPYNYK;QSSSYSFFK;TWYPEV | Yes              | Yes         |          |          |        |          |        |
| Cadherin-5                          | P33151    | CDH5       | 1           | ELDSGTTP  | 1          | ELDSGTTP | Yes              | Yes         |          |          |        |          |        |
| Carbonic anhydrase 1                 | P00915    | CA1        | 1           | VDLALQAI  | 7          | ADGLAVIGVLMK;ADGLAVIGVLM [+15.994915]K,EIIINVGHSFHVNFDENDNR;ESISVVSEQLAQFR;PISVSYNPAT | Yes              | Yes         |          |          |        |          |        |
| Carboxypeptidase B2                  | Q96144    | CPB2       | 1           | IAWHVR    | 3          | DTGTYGFILLPER;YTHGHGSETLYLAPGGGDWYDNLGK | Yes              | Yes         |          |          |        |          |        |
| Carboxypeptidase N catalytic chain  | P2151D    | CPN1       | 1           | SIPQVSPV  | 4          | EALIQFLEQVHQGIG;HLVIYFESDHPHIPELEPEV;VQLIQQTP;NNANGVLDNR | Yes              | Yes         |          |          |        |          |        |
| Carboxypeptidase N subunit 2        | P22792    | CPN2       | 1           | AGGSWDL  | 6          | AGGSWDLAVQER;DHLGFQVTVPSDEK;GQVQPALLNEK;LEILLSL;LSNNALSDLPQGFVGK;TVISFAR | Yes              | Yes         |          |          |        |          |        |
| Ceruloplasmin                       | P00450    | CP         | 1           | IYHSBIDAPK| 35         | AEELGILELGLPGQHLADVGDGK;ALYQYQDTEFPR;ALYQYQDTEFFTR;KEPKWLGFLGPIRK;DIDDEEFIESNK;DIFITGGLGP | Yes              | Yes         |          |          |        |          |        |
| Cholinesterase                      | P06276    | BCHE       | 1           | YLTNLNTES | 2          | IFFGVSGEFGK;YLTNLNTSER | Yes              | Yes         |          |          |        |          |        |
| Clusterin                           | P10909    | CLU        | 1           | ELDESLOVQ AER | 11       | ASIIIDEFQDR;EIQNAIVGK;ELDESLOVQAER;EPQDTTHYLPFSLPHR;FMETVAEK;FM [+15.994915]JETVAEK;J DLSENDJK;KNYELJK;LDSQDDPTVTVPVPSVTR;TLSSNLEAEK;VTTVSHTSDDSPGVGETVVK | Yes              | Yes         |          |          |        |          |        |
| Coagulation factor IX                | P00740    | F9         | 1           | SALVRYQLYR | 2          | EYTINFLKI;TVVIAVHNEIETETHQK | Yes              | Yes         |          |          |        |          |        |
| Coagulation factor V                 | P12259    | F5         | 1           | AEEVDIVIQVR | 6          | AEEVDIVIQVR;EDGILGPIRK;EFNPLVIVGLSK;GEEVEHGLGPIRK;SEAYNTFSER;SXYLEDNINK | Yes              | Yes         |          |          |        |          |        |
| Coagulation factor X                 | P00742    | F10        | 1           | MLEVYPYVR | 1          | EYDFDIAVLR | No               | Yes         |          |          |        |          |        |
| Coagulation factor XI                | P03951    | F11        | 1           | TSEGQLPS TR | 2          | TAAIGYSFK;TSEGQLPSTR | Yes              | Yes         |          |          |        |          |        |
| Coagulation factor XII               | P00748    | F12        | 1           | EQPPSLTR  | 2          | LHEAFSPVSQHDLALLR;NKPGVTVDAYYALWIR | Yes              | Yes         |          |          |        |          |        |
| Coagulation factor XIII A chain | P00488 | F13A1 | 1 | GTYPVPR | VSEIQSGK | 3 | DGTTHVVENVDATHIGHK;FOEFGQEEER;1JASM|+15.994915|SSDSLK | Yes | Yes |
| Complement C1q subcomponent B | P02746 | C1QB | 1 | IAFASTATR | 2 | FDHVITNMNNYEPFR|FDHVITNM|+15.994915|NNNYEPFR | Yes | Yes |
| Complement C1q subcomponent C | P02747 | C1QC | 1 | FQSVFTTVT R | 4 | FNAVLTNPQGDYDSTSGK|FQSVFTTVTQR|THQPAPPANSL;TNQVNSGGVGLR | Yes | Yes |
| Complement C1r subcomponent | P00736 | C1R | 1 | GLTLHLK | 6 | LFGEYTSPLFPK;YPNPNFNEYITTIVPTGKYR;QRPPCDHTSSNAVLFFTDDESGLSR|VLYNVQDVKK;VSVPDHYR;YTTTM |+15.994915|GNVHYK | Yes | Yes |
| Complement C1r subcomponent-like protein | Q9NZP8 | C1RL | 1 | VVVHHPDY R | 2 | GSEAIAAPDGNPAK|VLSYVDWK | Yes | Yes |
| Complement C1s subcomponent | P09871 | C1S | 1 | TNEFDNDI ALVR | 10 | EDTPNSWPEAK|GDSGGGFAFVQDPPDK|JIGGSDADI|LVEPEGR|NYVDWIKM|SNADLIIFQDTELQGK|SSNNP | HSPIVEEEFGVQPNK;TNQVNNSTPRED;TFNNDNDALVR;VEDFESTLFGSVIR | Yes | Yes |
| Complement C2 subcomponent | P06681 | C2 | 1 | HAFLQDQT K | 10 | ALHQVFEHMDLQSVK|AVISPQFDVF|DMETTVISELNNAN%;GESGAVFLER|HAFILQDTK|HAIILTDGK|NGQILE | FYGDDIALKK;QHCLQDNFLPL;RNYDLIDIAIGVGGK;SSGQQWQPTGPTAR | Yes | Yes |
| Complement C3 subcomponent | P01024 | C3 | 1 | TGLQOEVE VK | 68 | AAVYHSHISDGVR|AEVLQGKSLYSATVILHSGSDMVAER;AGDFLEANYMLQR;AGDFLEANYM|+15.994915|NLQR;APSTWLTAYVTVR|ALVEYVR;AYENESQPDQVSTFEVK|DAFHPHQLNLDSLQDPSR;DFOWPPPPVPR;DMALTAFTVLSLQEA;DSWTTEAVLSMSSDK;EPIDPAALDSQPOTOSETE;ENEGFTVTAEQK;EPGDODIVQLPL;SITTDFIP | SVR;EYVAVDAVDOVDQYTVFQSTFKTGY;QVYNYNEK;GLETIVIAR;GTYQLARFHL;HYLMWGSLSDSPWKEG|ILLGQTVPQMTDEADAVERA;ILLOGTVPQAQ|M+15.994915|TEDAVDAER;PIEPDGEDEIVLSR;JSPLESK|JAVDKVEW;KQELSEAQATRR|KEVEGTAFVFGIDQDGQK|LESEETMVEIAHDAGQDVPVTYHDPGK;LESEMTMVLEAHDAGQDVPVTYHDPGK;LMNIV|LSINHTHPQK;LVAYVTILAGQGR|NEQVEIR;NTIYLDK|PMWPDPYFVPNVTPQSGAPYR;PNLSSIGK|QELSEAQATR;RQGALEUK;QKPQOGFQEDAFVQHEQMGGLQ;QKPDGVFQEGVAHQ | M+15.994915|JGQR;QVYNYEATYALLALQK;QPSSSAFAAVK;QVREPGDQDQVSLISTTTDFIPSFR;RIEPDGEDEIVLSR;SEFEPSLIVLWEDLIK;SGIPVTSPYQHFTK;SQQSEIDROVIPQGQTMK;SGSDEVQGGQVR;SLYSATVILHSGSDMVAER;SNLDEIAEAEINNISR;SSLVYPVPVLTEL|PGPGETLNVLFNLQG;TDLQVEVK;YTQGPSVGLVR;TMQALYSTVGNSNVHLVLR|TM|+15.994915|QALPSTVGSNSNYLHLSVR;TVAVN | INEPEIGPKV;TV|+M+15.994915|VINENPEIGPKV;QVQVYFNELIQPGAVK;VLLDGVNPDR;VPVAPQVQEDTVQL;QQGDGVAK;VQSLNDFDEYMAIEQTK|VQLSNDFDEYMIYM+15.994915|AQEITQK;VVLVSLQFGQFDQKT;YYGGYGSTQATMFQVALQAYQK;YYTTLVMY|KYYTTLVMY|KYYTTLVMY|KYYTTLVMY|KYYTTLVMY|KYYTTLVMY|KYYTTLVMY|KYYTTLVMY|KYYTTLVMY | Yes | Yes |
| Complement C5 subcomponent | P01031 | C5 | 1 | VFQFLEK | 22 | ALLVGEHLNIIVTPK;ALVEGVDQLFTDYQIK;ATLLDIYH;DINYVNPVIK;DVFLENNPYYPSVVR;DVFLE|M+15.994915|JNPYSVVR;ELSYSLEDVPNK;ENSSQYPK;EYYOFFTDPR;LYVPNHSVEISPEYNFQKG;FYSGAISLPDIPK;FSYSQGGHVHELSSK;GSSASTWLTAFALR;PLDLPVK|LQGTDLPVEAR;MVETTAYALLSLNLSK|SFYPSLWLVWHEVLVPVR;TDA | PDLPEENQAR;VFQFLEK;VISITSTENVYVIW;VLSLEEQR;YYGGFSTQDQTNIAEGLTEYSLLVK | Yes | Yes |
| Complement component C6 alpha chain | P13671 | C6 | 1 | DLHLDVF LK | 8 | ALNHILPELYNALSYRLDLHSDLVF|ENPAVPVIFELAPDVLFVR|HSQFSQGAE;SKENIHNASFK;SEYGAALAAWE;TFEWSLEVS;VPANENLYNFQEVQAZEQL | Yes | Yes |
| Complement component C7 | P10643 | C7 | 1 | AASGTQNNVLR | 8 | AASGTQNNVLR;DGFDQGDESTQ|M+15.994915|JFVPGK;LIDQYTHLYQSGSSGQGYR;LSGNVLSTFYQFK|JTLPYLEL | VSLQKWFFV|LYCQWSDEYSAWSEAYSTNLQPQ | Yes | Yes |
| Complement component C8 alpha chain | P07357 | C8A | 1 | MESLGITS R | 7 | AMAVEDISR;AM|+15.994915|AVEDISR;HTSLGPEAK;LYGIDDEK;YHEFAEADGISEFDFDNANDLSK|YNPV | VIDFMEMQPIHVLR;YNPVIFIDEM|+15.994915|QPIHEVLR | Yes | Yes |
| Complement component C8 beta chain | P07358 | C8B | 1 | SDELEVAHY K | 6 | DTMVEDLVVLVR;EYESYDSEF|JPGIFELGISSQDR|LPLEYSYGAYR;SDELEVAHYK;VEPYLELVTATDFAYSSTVR | Yes | Yes |
Ficolin-3  O75636  FGN3  1  YAYSEA  AHK  3  LLGEVHDHQLGK;YAYSEAAHK;YGIWDASGR

Galectin-3  binding protein  Q03880  LGALS8  1  SDLAVPSE  LALLK  8  ASHVEEVEGLVE;ADVTPWSGER;EALSEAOFIQSDQ;SDLAVPSEALLK;SQLVYQSR;SHTLTLR;TLQALEHTVFT

Gelsolin  P06396  GSN  1  AGALASN  DAVLKL  15  AGALNSDARFFL;DPDQ2TDLGIGLSYSHH0ANYR;EPQGRLW;EQVGFQFASATFLGGYK;NWRDPOQTDGGFLGSL  

Glutathione peroxidase  P23252  GPX3  1  QEPGENS  EIPFTLKL  2  FLVPGDPGRMR;FLVPGDPGRMR;+5.994915;R

Haptoglobin  P00738  HP  1  DIAPFTLTL  YVGK  11  AVGDKLPLCE[+57.211464];EAPODC[+57.211464];PKEKPEPEAPVVE;HVEGTVSTPET;TLETGDIVYVLNNEK;S

Hemoglobin subunit alpha  P69095  HBA1; HBA2  1  VGHAUGE  YGAEALER  12  AAWQGVKVGAYAGEYAELER;FLASVFTLVS;LSSHC[+57.211464];LIVTLAALHPAEFTPAVHASLDK;LRVDPLN

Hemopexin  P02790  HPX  1  NFPSPVD  AAFLR  12  DGWHSWPIAHPQPGPPSADVDAAFSWEKE;EVGTGPHGILSVDASAF([+57.211464];PGRSP;EWFWDLATGTMK;E

Heparin cofactor 2  P05546  SERPID1  1  TLEAQLTLP  R  11  FPVEMTHNHRIFR;GETHEQVHSLIRF;KQSGATASSPDQWEQLNNK;GPDQDLK;IAIYDLF;NGNAMISQDR;NYN

Histidine-rich glycoprotein  P04196  HRG  1  ADLFYDOVE  ALDLESKPK  10  ADLFYDVEALDLESKPK;ALDLINKR;DGYLFQQLRL;DSPVFDFFETS;EENDDFASFR;GEVLPLEAPFSLFPHPHK;G

Hyaluronan-binding protein 2  Q14520  HABP2  1  VLVGDQDLK  1  VLVGDQDLK

Ig gamma-1 chain C region  P01857  IGHG1  1  GPSVFLPAL  SSK  5  EPQYVTLPSPSRDLTK;GPSVFLPALS;STSGGAALGC[+57.211464];LVK;TEVTC[+57.211464];VVVDHSEP

Ig mu chain C region  P01871  IGHM  1  GPSFSLR  12  DGGFSGNPK[+57.211464];[GQTDEHVVC57.021464]K;GVALHRPDVYLLPPAR;NVPLPVIAELPPK;QIQVS

Immunoglobulin kappa variable 4-1  P06312;P06313  IGKV4-1;IGK4V-1  1  NLYLWYQ  QXPGQPPQK  1  SSQSVLYS5NK

Insulin-like growth factor-binding protein complex acid labile subunit  P35858  IGFALS  1  NUJAAAVAPGAFGLK  9  ANVFAQGLP;DFALAQLPSAPVR;DLHFEELQLGGR;LAEIPADALPGQLR;LAYQLPAFSLGAEIR;LYELLRLR;NIA

Inter-alpha-trypsin inhibitor heavy chain H1  P19827  ITIH1  1  GSSLVQAS  EANLQAAQ  QDFVR  16  AASIGENAGLR;EVAFDELIPK;FAHVSYTQSVTVNANEEAR;GSFPLEAHTNLNGGLR;GSLVQASEANLQAQDFVRFJR

Inter-alpha-trypsin inhibitor heavy chain H2  P19823  ITIH2  1  SLAPATAA  K  22  AEDHFSVDVFDNONIR;NGAEGFLVNGYFREVHDFAPNDLPPK;ETAVDQELVVLBDVK;FLVWPFDFTEGFHGDVFPSYK;FY

Inter-alpha-trypsin inhibitor heavy chain H3  P19823  ITIH3  1  SLAPATAA  K  22  AEDHFSVDVFDNONIR;NGAEGFLVNGYFREVHDFAPNDLPPK;ETAVDQELVVLBDVK;FLVWPFDFTEGFHGDVFPSYK;FY

Inter-alpha-trypsin inhibitor heavy chain H4  P14624  ITIH4  1  SPEQIQET  VLDGLULLI  R  26  AEAdaAOQYSAAVAK;AGFSWFQYTFK;KANTVQFTAQFOM[+57.211464];EKP;DOEVLIVFSTEATQWPRSLPVPSASCNE

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

Yes  Yes

S-36
| Protein Name                          | Accession | P SM | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  |
|--------------------------------------|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| inhibitor heavy chain H4             | P29622    | SERPINA4 | 1   | VGSALFLS HNlk | 5   | FYYLASETPGK;GAATVFFLPNQGK;JAPANADAFR;LGFTDLFSK;WADLSGITK | Yes | Yes |
| Keratin type I cytoskeletal 10       | P13645    | KRT10 | 1   | SLLEEGG 6SGGR | 12  | ALEENSEYLEGK;EAEWFNEX;LENIEYTGK;NLVLMTLDNANILQQDNR;NVQALEIELQGSGLK;QLQALEISLAEITE GR;SLLEEGG6SGGGR;SQYEQLAEQNRK;SQYEQLAEQNR;VLDELTLTK;VTM[+]15.994915QNLNDR;YENEVAL R | Yes | Yes |
| Keratin type I cytoskeletal 9        | P35527    | KRT9 | 1   | TLLIDNTR R | 7   | FEM[+]15.994915GNLNR;FSSSSGGYGGSSR;HGVCQELIELEQQLSK;QSVDADINGLR;GLSSGGGGLSGSISLQ;T LLLIDNTR;VCLAEANNDLNLKr | Yes | Yes |
| Keratin type II cytoskeletal 2 epidermal | P35908    | KRT2 | 1   | YEELQVT W GR | 3   | GGIS5GGYGGGSK;SLVGLGQTK;VDLNNQIEFFLK | Yes | Yes |
| Kallistatin                          | P10042    | KNG1 | 1   | DIPTNSPE LEELTI TTK | 6   | DIPTNSPELEELTI TTK;FKLDDDEHQGTVLVK;TLDLGENQLETLPPDLR;YAVAGAFQLR | Yes | Yes |
| Kinigen-1                            | P02750    | LRG1 | 1   | DLLLOPOD LR | 8   | ALGHLDLSGNR;DLLLOPODLR;ENQLEVELSWLHGLK;GPLQERL;QLQALEILEQQLSK;QSVDADINGLR;GLSSGGGGLSGSISLQ;TVGSDTFYSFK;YFIDFVAR;YNSQNO5NQFLYR | Yes | Yes |
| Leucine-rich alpha-2- glycoprotein   | P18428    | LBP  | 1   | ITLPDFTG DLR | 3   | GLQYAAEQGELLALQSELLK;ITLPDFTGDLR;LAEGFPLPLLK | Yes | Yes |
| L-selectin                           | P14151    | SEL1 | 1   | AEIEYLEK | 1 SYWIGIR | Yes | Yes |
| Lumican                              | P51884    | LUM  | 1   | SLEDLQTL HNK | 3   | FNALQYLR;LGLPSYK;SLEYLDSLFQNJOR | Yes | Yes |
| Mannose-binding protein C            | P11226    | MBL2 | 1   | WLTFSILG K | 2   | SPDGDSSLAASER;TEGQVDTGQNR | Yes | Yes |
| Melanotransferin                    | P08582    | MELTF | 1   | YYDYSQAF R | 1   | C[+]57.021464AEAGGDAVFVK | No | Yes |
| N-acetylmyramoy I-L-alanine amidase  | Q96PD5    | PGLYRP2 | 1   | AGLLRPQO ALLGHYR | 2   | EYGVVLAPDGSSTAVEPPLAGLEAGLQQR;TD[+]57.021464PGDALFDOLLR | Yes | Yes |
| Lipopolysaccharide-binding protein   | P13645    | SERPINA4 | 1   | FGSSLTV R | 3   | AQVYLSFEASSR;ADVTSGLIGGEDGR;TLLLVGSPTWK | Yes | Yes |
| Peroxiredoxin-2                     | P32119    | PRDX2 | 1   | GLFIIDGK | 2   | EGGGLPLNIPILLADVTR;GTVNDLPVGR | Yes | Yes |
| Phosphatidylin-olive-sterol acyltransferase | P04180   | LCA7 | 1   | SGLVSNAPDGVR | 1   | SGLVSYNAPGQR | No | Yes |
| Phosphatidylin ositol-glycan-specific phospholipase D | P80108 | GPLD1 | 1 | FGSSLTV R | 3 | AQVYLSFEASSR;ADVTSGLIGGEDGR;TLLLVGSPTWK | Yes | Yes |
| Phospholipid transfer protein        | P55058    | PLTP  | 1   | AVEPQLQ E | 1   | FLEQELETITLPDLR | Yes | Yes |
| Pigment epithelium-derived factor    | P36955    | SERPINF1 | 1 | LGIIIDSP DFSK | 11 | ALYDVDISSPDGYH;DTGTDGALLFGK;EIPDIEISILLGVAHFK;ELDDVTAPQK;LAAAVSNFQDVPLR;LQDIEINNW VQAO;MKLSYEGETVK;SSSTPNTWLLPSLVATALSALSGAEQR;TSLEDLYDEER;TVQAVLTVPK;YGLDSLDSC[+] 57.021464JK | Yes | Yes |
| Plasma protease C1 inhibitor         | P05155    | SERPING1 | 1   | FCQTLTTL PR | 17  | DFTC[+]57.021464QHVAQLF;FPVVFRG;FQFTLTLPG;GTVSSQIHPSDLPAR;HRLEDEMQALPSVFK;HRLEDM[+]57.021464EQALPSVFK;LEDM[+]57.021464EQALPSVFK;LLDSSLPDTR;VLVDNAAPP KS;LVYHAFAMS;KLVYFEQQQQPFFLWVODQHKT;TVSSSRP;TNYELSLYPK;VTTSDQDLSIMEK;VTTSDQDM[+] 57.021464EK | Yes | Yes |
**Plasma serine protease inhibitor**

PO5154  SERPINAS5  1  GFQQLLQELNQPR  4  AVVEVDESGTR;DFTDFLYR;M+[15.994915]QILEGLGNLQK;TYLADTFPTNF

**Plasminogen**

P00747  PLG  1  EAQLPVIENK  8  EAQLPVIENK;FVTWIEGVMR;FVTWIEGVM+[15.994915]R;HSIFTPETNPR;LSSPAVITDK;NLNDENY+[57.021464]R;SPRSPSVKYVILGAGHVEQNLPHQVIEESR;VLGAHGQVENLIHPQVIEESR

**Pregnancy zone protein**

P20742  PZP  1  ISETIVNSK  4  GSFLASFPVESAVPIAR;ISETIVNSK;NELIPLYLENPR;SFTDLVAEK

**Protein AMBP**

P02760  AMBP  1  HHGPTITA  2  AFQLWAFADAV;ETLLOQDRF

**Protein S100-A9**

P06702  S100A9  1  DLQNFLLK  2  LTWASHK;NIETINHTHQYSK

**Protein Z-dependent protease inhibitor**

Q9UKS  SERPIN10  1  ETSNFGSLLR  3  ETSNFGSLLR;FSPFADSLSEATGR;TVIEVDER

**Prothrombin**

P00734  F2  1  ELLESEYIDGR  6  ELLESEYIDGR;ELNDRDIALMK;EATASLSEQYK;ETTWATNVGK;TATSEYQTFFNPR;VTGWNGLK

**P-selectin**

P16109  SELP  1  TVWTWVG  1  SYWIGIR

**Retinol-binding protein 4**

P02753  RBP4  1  YWGVASFLOK  3  FSFTWYAMAK;FSFTWYAM+[15.994915]AK;YWGVASFLOK

**Serotransferrin**

P02787  TF  1  DGAGOVAFVKN  35  ADROOYELIC+[57.021464]LENNTR;AIANEADAVLTDGLVGYDAYLAPNNLKPVAEEYGSK;ALYDLC+[57.021464]R[J]+[57.021464]DEWSVNSVGGK+[57.021464]K;LDGAGODVAFVK+[57.021464]LVEKGDVAFVKHTQVPTQNGGK;DGAGDVAFK;DLLFDETVC+[57.021464]LAK;DSAHGFGL;DSFGQMNQRL;DSFGFQ+[15.994915]NLRQLDYEELL+[57.021464]LQDTGR;EDLUIELNQAQEFGK;EDPQTFYVAYAVVK;EFQQLSFPSSGPK;EGQYOTITGAFR;DEFFSEC+[57.021464]APGSK;HQTQVONTQGGK;HSTIFEPANE

**Serum albumin**

P02768  ALB  1  LVNEVTEFAK  47  AEFAEVSK;AEFAEFLVTLTDLTK;AVLIGAFAYQYQQC+[57.021464]PEFEDHK;AVMDDFAAEEK;DDNPNLR;DLGEENFK;DVFLGMFLFYEAR;DVFLGM+[15.994915]FLYEAR;EQLKAVMDDFAAFEK;ETC+[57.021464]FAEE

**Serum amyloid A-1 and A-2 proteins**

P0D18  SAA1  1  EANNYGGSD  2  FFHGAEDSDLQADQAANEWGR;GPQGGVVWAEEAIDAR

**Serum amyloid A-4 protein**

P35542  SAA4  1  GNYYDAQAR  3  AYWDMISHNQSRR;EALQLQGDFMDGR;SPGGVWAAC

**Serum amyloid P-component**

P02743  APCS  1  IVLQEOQDSYGK  7  AYSDSLFR;AYLISLYNTQR;DNELLVYK;ESVTDVHNLITPLEK;IVLQEOQDSYGK;QGFYVEAQPK;QVEGSLYIGR

**Serum paraoxonase/arylesterase 1**

P27169  PON1  1  IFYFDSENPPSEVLKR  7  FDVSSFNPHIGSTTEDDMAEYLVNHPDKA;GIEGSGDEILPNGLAFSSGGLK;IFFYFDSNPPASEVLK;IQNILTEEPKL;LIGTVFHK;VVAEGDFDANGISPDKG;VYVAIELAHK
| Protein Name | Accession Number | Gene Symbol | MOWSE Score 1 | MOWSE Score 2 | MOWSE Score 3 | Yes/No 1 | Yes/No 2 |
|--------------|------------------|-------------|---------------|---------------|---------------|-----------|-----------|
| Tetranectin  | P05452           | CLEC3B      | 1             |               |               | Yes       | Yes       |
| Thrombospondin 1 | P07996        | THBS1       | 1             |               |               | Yes       | Yes       |
| Thyroxine-binding globulin | P05543  | SERPINA7 | 1             |               |               | Yes       | Yes       |
| Transferrin receptor protein 1 | P02786  | TFRC        | 1             |               |               | Yes       | Yes       |
| Transhyretin | P02766           | TTR         | 1             |               |               | Yes       | Yes       |
| Vitamin D-binding protein | P02774    | GC          | 1             |               |               | Yes       | Yes       |
| Vitamin K-dependent protein S | P07225    | PROS1      | 1             |               |               | Yes       | Yes       |
| Vitamin K-dependent protein Z | P02766    | PROZ       | 1             |               |               | Yes       | Yes       |
| Vitronectin | P04004           | VTN         | 1             |               |               | Yes       | Yes       |
| von Willebrand factor | P04275    | VWF         | 1             |               |               | Yes       | Yes       |
| Zinc-alpha-2-glycoprotein | P25311    | AZGP1       | 1             |               |               | Yes       | Yes       |
| 60 kDa heat shock protein mitochondrial | P10809 | HSPD1       | 1             |               |               | Yes       | No        |
| 72 kDa type IV collagenase | P08253 | MMP2        | 1             |               |               | No        | No        |
| 78 kDa glucose-regulated protein | P11021 | HSPAS1      | 1             |               |               | Yes       | No        |
| A disintegrin and metalloproteinase with thrombospondin motifs 2 | O95450 | ADAMTS2 | 1             |               |               | No        | No        |
| A disintegrin and metalloproteinase with thrombospondin motifs 20 | P59510 | ADAMTS2 | 1             |               |               | No        | No        |
| A disintegrin and metalloproteinase with thrombospondin motifs 9 | Q9P2N4 | ADAMTS9 | 1             |               |               | No        | No        |

S-39
| Gene Name                        | Accession   | Ensembl   | Description                                | Description                     | Yes/No  | Yes/No  |
|---------------------------------|-------------|-----------|--------------------------------------------|---------------------------------|---------|---------|
| Actin, aortic smooth muscle     | P62736      | ACTA2     | 1 SYELPDG QVITTIGNE R                      | NA NA                           | Yes     | No      |
| Adhesion G protein-coupled      | Q8IZF2      | ADGRF5    | 1 DVIVHLP LK NA NA                         | NA NA                           | Yes     | No      |
| receptor F5                     |             |           |                                            |                                 |         |         |
| ADM                             | P35318      | ADM       | 1 LDVASEFR NA NA                          | NA NA                           | No      | No      |
| Angiogenin                      | P03950      | ANG       | 1 DINTFIHG NK NA NA                       | NA NA                           | Yes     | No      |
| Angiopoietin-related protein 3  | Q9Y5C1      | ANGPTL3   | 1 DLVFSTW DHK NA NA                       | NA NA                           | Yes     | No      |
| Apolipoprotein C-IV             | P55056      | APOC4     | 1 ELLETVVN R NA NA                        | NA NA                           | Yes     | No      |
| Aromatase                       | P11511      | CYP19A1   | 1 NMILEMIF TPR NA NA                      | NA NA                           | No      | No      |
| Atrial natriuretic peptide 1    | P16066      | NPR1      | 1 ITDYGLES FR NA NA                       | NA NA                           | No      | No      |
| Autism susceptibility gene 2    | Q8WXX7      | AUTS2     | 1 ALSLASSS GSDK NA NA                     | NA NA                           | No      | No      |
| protein 1                       |             |           |                                            |                                 |         |         |
| B-cell scaffold protein with    | Q8ND82      | BANK1     | 1 LTIVHHPG GK NA NA                       | NA NA                           | No      | No      |
| ankyrin repeats                 |             |           |                                            |                                 |         |         |
| Beta-nerve growth factor        | P01138      | NGF       | 1 TTATDIK NA NA                           | NA NA                           | No      | No      |
| Cadherin-13                     | P55290      | CDH13     | 1 INENTG5V SVTR NA NA                     | NA NA                           | No      | No      |
| Calcitonin gene-related peptide | P06881      | CALCA     | 1 NNIVPTN VGSK NA NA                      | NA NA                           | No      | No      |
| 1                               |             |           |                                            |                                 |         |         |
| Calcitonin                      | P01258      | CALCA     | 1 FHTFPQT AIVGQAP GK NA NA                | NA NA                           | No      | No      |
| 1                               |             |           |                                            |                                 |         |         |
| Calponin-1                      | P51911      | CN1       | 1 VNVGK NA NA NA                          | NA NA                           | No      | No      |
| Cartilage acidic protein 1      | Q9NQ79      | CRTAC1    | 1 GVASLFA GR NA NA                        | NA NA                           | Yes     | No      |
| Cathelicidin antimicrobial      | P49913      | CAMP      | 1 AIDGINQR NA NA                           | NA NA                           | Yes     | No      |
| peptide                         |             |           |                                            |                                 |         |         |
| Cation-independent mannose-6-   | P11717      | IGF2R     | 1 GHQAFDV GQPR NA NA                      | NA NA                           | Yes     | No      |
| phosphate receptor              |             |           |                                            |                                 |         |         |
| CD40 ligand                     | P29965      | CD40LG    | 1 SQFEGFV K NA NA                         | NA NA                           | No      | No      |
| CD44 antigen                    | P16070      | CD44      | 1 YGFIEGHV VIPR NA NA                     | NA NA                           | Yes     | No      |
| CDS antigen-like                | O43866      | CD5L      | 1 LVGGILHR NA NA                          | NA NA                           | No      | No      |
| cDNA FLJ53327, highly similar to Gelsolin (NOT REVIEWED) | B722X4 | NA | 1 | EGGQTAP ASTR | NA | NA | Yes | No |
| Cholesteryl ester transfer protein | P11597 | CETP | 1 | GVSFDII NPEIIR | NA | NA | Yes | No |
| Chromogranin-A | P10645 | CHGA | 1 | ELQDLAL QGAK | NA | NA | No | No |
| Claudin-5 | Q00501 | CLDN5 | 1 | PDLSPVK | NA | NA | No | No |
| Coagulation factor VII | P08709 | F7 | 1 | VSYQEWL QK | NA | NA | No | No |
| Coagulation factor VIII | P00451 | F8 | 1 | LHPTHYSI R | NA | NA | No | No |
| Coagulation factor XIII B chain | P05160 | F13B | 1 | IQTHSTTY R | NA | NA | Yes | No |
| Collagen alpha-1(I) chain | P02452 | COL1A1 | 1 | GVVGPG QR | NA | NA | No | No |
| Collagen alpha-1(III) chain | P02461 | COL3A1 | 1 | GGAGPPG PEGK | NA | NA | No | No |
| Collagen alpha-1(XVIII) chain | P39060 | COL18A1 | 1 | AVGLAGT FR | NA | NA | Yes | No |
| Collagen alpha-2(I) chain | P08123 | COL1A2 | 1 | GVGPQG AR | NA | NA | Yes | No |
| Complement C1q subcomponent subunit A | P02745 | C1QA | 1 | PAFSAIR | NA | NA | Yes | No |
| Complement C1q subcomponent subunit B | P00746 | CFD | 1 | THHDGAI TER | NA | NA | No | No |
| Creatine kinase B-type | P12277 | CKB | 1 | DLEDPIIED R | NA | NA | No | No |
| Creatine kinase M-type | P06732 | CKM | 1 | FEELTR | NA | NA | No | No |
| Cystatin-C | P01034 | CST3 | 1 | ALDFAVG EYNK | NA | NA | Yes | No |
| Desmoplakin | P15924 | DSP | 1 | AELVQPE LK | NA | NA | No | No |
| Dickkopf-related protein 1 and 2 | Q94907 | DKK1 | 1 | GSHGLEFT FQR | NA | NA | No | No |
| Di-N-acetychitobias e | Q01459 | CTBS | 1 | ATIINQNYR | NA | NA | Yes | No |
| Elastin | P15502 | ELN | 1 | LPGGYGL PYTGGK | NA | NA | No | No |
| Endothelial lipase | Q9YSX9 | LIPG | 1 | LVSAHLTR | NA | NA | No | No |
| Endothelial protein C receptor | Q9UNN8 | PROCR | 1 | TLAFPTLR | NA | NA | Yes | No |
| Gene Name                        | Accession | Immunoprecipitation | Immunoblot  |
|---------------------------------|-----------|---------------------|-------------|
| Epidermal growth factor receptor| P00533    | EGFR 1              | 1           |
| Fatty acid-binding protein heart| P05413    | FABP3 1             | 1           |
| Ferritin heavy chain            | P02794    | FTH1 1              | 1           |
| Ferritin light chain            | P02792    | FTL 1               | 1           |
| Fetuin-B                        | Q9UGMS    | FETUB 1             | 1           |
| Ficolin-2                       | Q15485    | FCN2 1              | 1           |
| Follistatin-related protein 1   | Q12841    | FSTL1 1             | 1           |
| Fructose-bisphosphate aldolase B| P05062    | ALDOB 1             | 1           |
| Galectin-3                      | P17931    | LGALS3 1            | 1           |
| Gamma-enolase                   | P09104    | ENO2 1              | 1           |
| Glial fibrillary acidic protein  | P14136    | GFAP 1              | 1           |
| Glutamate receptor ionotropic NMDA 2A | Q12879  | GRIN2A 1           | 1           |
| Glutamate receptor ionotropic NMDA 2B | Q13224  | GRIN2B 1           | 1           |
| Glutathione S-transferase P     | P09211    | GSTP1 1             | 1           |
| Heat shock protein beta-1       | P04792    | HSPB1 1             | 1           |
| Hepatocyte growth factor-like protein | P26927 | MST1 1             | 1           |
| Hornerin                        | Q86YZ3    | HRNR 1              | 1           |
| IgGFc-binding protein           | Q9Y6R7    | FCGBP 1             | 1           |
| Insulin-like growth factor I    | P05019    | IGF1 1              | 1           |
| Insulin-like growth factor I    | P08833    | IGFBP1 1            | 1           |
| Insulin-like growth factor I    | P18065    | IGFBP2 1            | 1           |

S-42
| Protein Name | Gene ID | Protein | Binding | Intercellular | Interleukin-10 | Interleukin-6 | Interstitial collagenase | Lactotransferrin | Lysozyme C | Mannan-binding lectin serine protease 1 | Mannan-binding lectin serine protease 2A | Matrix Gla protein | Matrix metalloproteinase-9 | Metalloproteinase ase inhibitor 1 | Metalloproteinase ase inhibitor 2 | Metalloproteinase ase inhibitor 4 | Microtubule-associated protein tau | Mucin-16 | Myelin basic protein | Myeloblastin | Myeloperoxidase | N(G),N(G)-dimethylarginine dimethylamino hydrolase 1 |
|--------------|--------|---------|---------|--------------|--------------|--------------|----------------------|----------------|-------------|-----------------------------|-----------------|-----------------|------------------------|--------------------------|---------------------|-----------------------------|----------------|----------------|------------------|----------------|---------------------------|------------------|
| binding protein 2 | P17936 | IGFBP3 | 1 | FLNVLSPR | NA | NA | Yes | No | Intercellular adhesion molecule 1 | P05362 | ICAM1 | 1 | LLGIETPLPK | NA | NA | Yes | No | Interleukin-10 | P22301 | IL10 | 1 | AHVNSLG | ENLK | NA | No | No | Interleukin-6 | P05231 | IL6 | 1 | FESSEEQARR | NA | NA | Yes | No | Interstitial collagenase | P03956 | MMP1 | 1 | AFQLWSNVTPLFTK | NA | NA | No | No | Lactotransferrin | P02788 | LTF | 1 | YLGPOQVAGITNLK | NA | NA | Yes | No | Lysozyme C | P61626 | LYZ | 1 | AWVAWAR | NA | NA | Yes | No | Mannan-binding lectin serine protease 1 | P48740 | MASP1 | 1 | TQVITSPDFPNHPYP | NA | NA | Yes | No | Mannan-binding lectin serine protease 2 | O00187 | MASP2 | 1 | WPEPVFG | NA | NA | Yes | No | Matrix Gla protein | P08493 | MGP | 1 | NANTFISPQQR | NA | NA | Yes | No | Matrix metalloproteinase-9 | P14780 | MMP9 | 1 | AVIDDAFARR | NA | NA | Yes | No | Metalloproteinase ase inhibitor 1 | P01033 | TIMP1 | 1 | GFQALGDAADIR | NA | NA | No | No | Metalloproteinase ase inhibitor 2 | P16035 | TIMP2 | 1 | EYLIAGK | NA | NA | Yes | No | Metalloproteinase ase inhibitor 4 | Q99727 | TIMP4 | 1 | VVPASADPADTEK | NA | NA | No | No | Microtubule-associated protein tau | P10636 | MAPT | 1 | EADLEPEPS | NA | NA | No | No | Mucin-16 | Q8W27 | MUC16 | 1 | ELGPYTLDR | NA | NA | No | No | Myelin basic protein | P02686 | MBP | 1 | GVDAQGTLSK | NA | NA | No | No | Myeloblastin | P24158 | PRN3 | 1 | LVVVVLGAHNVR | NA | NA | Yes | No | Myeloperoxidase | P05164 | MPO | 1 | VFFASWR | NA | NA | Yes | No | N(G),N(G)-dimethylarginine dimethylamino hydrolase 1 | O94760 | DDAH1 | 1 | TPEEYEPS | NA | NA | No | No |
| Protein Name                                      | Accession | Start | End | Description                                                                 | Expression | Note  |
|--------------------------------------------------|-----------|-------|-----|------------------------------------------------------------------------------|------------|-------|
| Natriuretic peptides B                           | P16860    | 1     | EVATEGIR | NA | NA | Yes | No |
| Neurophilin-2                                    | Q60462    | 1     | ALQVVR | NA | NA | Yes | Yes |
| Neutrophil gelatinase-associated lipocalin       | P80188    | 1     | ITLYGR | NA | NA | Yes | No |
| Nucleoside diphosphate kinase A, B               | P15531    | 1     | PFFAGLVK | NA | NA | No | No |
| Neuropilin-2                                     | Q16625    | 1     | SLOSELDEINK | NA | NA | Yes | No |
| Osteopontin                                      | P10451    | 1     | GDSVVYGLR | NA | NA | Yes | No |
| Oxidized low-density lipoprotein receptor 1      | P78180    | 1     | LEGGISAR | NA | NA | No | No |
| Pappalyasin-1                                    | Q13219    | 1     | AYLDVNELK | NA | NA | No | No |
| Peroxiredoxin-1                                  | Q06830    | 1     | ADEGISFR | NA | NA | Yes | No |
| Plasminogen activator inhibitor 1                | P05121    | 1     | VFQQVAQASK | NA | NA | No | No |
| Plasminogen activator inhibitor 1                | Q13093    | 1     | GSVHONFADTFATGK | NA | NA | Yes | No |
| Plasminogen activator inhibitor 1                | Q01210    | 1     | ELLETGDNR | NA | NA | No | No |
| Platelet endothelial cell adhesion molecule      | Q01236    | 1     | IDNYLK | NA | NA | Yes | No |
| Platelet endothelial cell adhesion molecule      | Q2954     | 1     | DQYNYIDVPSR | NA | NA | Yes | No |
| Platelet-activating factor acetylhydrolase       | Q05161    | 1     | ETGTPQ | SAPQVR | NA | NA | Yes | No |
| Plasminogen activator inhibitor 1                | Q9166     | 1     | IQLGTVFHK | NA | NA | Yes | No |

The table continues with more entries, each with similar information as above, including accession numbers, start positions, end positions, descriptions, and expression notes.
| Protein Name                                      | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          | PDB Code | UniProt ID | TM Score | Signal Peptide | Product Peptide | Gene Name | Protein Name          |
|--------------------------------------------------|----------|------------|----------|---------------|----------------|-----------|-----------------------|----------|------------|----------|---------------|----------------|-----------|-----------------------|----------|------------|----------|---------------|----------------|-----------|-----------------------|----------|------------|----------|---------------|----------------|-----------|-----------------------|----------|------------|----------|---------------|----------------|-----------|-----------------------|----------|------------|----------|---------------|----------------|-----------|-----------------------|
| Sex hormone-binding globulin                     | P04278   | SHBG       | 1        | TSSSFVVR      | NA             | NA        | Yes                   | No       | No         | Yes       | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| SPARC                                           | P09486   | SPARC      | 1        | LEAGDHPV     | NA             | NA        | Yes                   | No       | No         | Yes       | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Spermine oxidase                                 | Q9NWMI0  | SMOX       | 1        | YSSHHGA      | NA             | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Sterile alpha motif domain-containing protein 9-like | Q8IVG5   | SAMD9L     | 1        | ENVDEVANAK   | NA             | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Stromelysin-1                                    | P08254   | MMP3       | 1        | TYFFVEDK     | NA             | NA        | Yes                   | No       | No         | Yes       | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Target of Nesh-SH3                               | Q727G0   | ABI3BP     | 1        | YLYSDLTG     | NA             | NA        | Yes                   | No       | No         | Yes       | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| TBC1 domain family member 10A                    | Q9BXI6   | TBC1D10A   | 1        | YLPGYYYSE    | K              | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Tenascin                                         | P24821   | TNC        | 1        | FTTDLDSP     | R              | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Tenascin-X                                       | P22105   | TNXB       | 1        | ILISGLEPS    | TPR            | NA        | Yes                   | No       | No         | Yes       | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Thrombomodulin                                   | P07204   | THBD       | 1        | SSVAADVIL    | SLLNNGDGGVGR  | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Thrombospondin-4                                 | P35443   | THBS4      | 1        | KPDQLFEEL    | K              | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Thyroglobulin                                    | P01266   | TG         | 1        | FSPDPSA      | GASALLR       | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Tissue_factor_pathway_inhibitor                  | P10646   | TFPI       | 1        | FYVWSVG      | K              | NA        | Yes                   | No       | No         | Yes       | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Tissue-type plasminogen activator                | P00750   | PLAT       | 1        | VVPGEEEQK    | NA             | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Transcription factor SOX-1                       | P35716   | SOX11      | 1        | AAQSGDY      | GGAGDDYVLGSLR | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Tumor necrosis factor receptor superfamily member 1A | P19438   | TNFRSF1A   | 1        | LGSLDHEIDR   | NA             | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Tumor necrosis factor receptor superfamily member 1B | P20333   | TNFRSF1B   | 1        | DEQVPFS     | K              | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Vascular cell adhesion protein 1                 | P19320   | VCAM1      | 1        | NTVISVNPSTK  | NA             | NA        | Yes                   | No       | No         | Yes       | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Vascular endothelial growth factor B             | P49765   | VEGFB      | 1        | VSVWIDVYTR   | NA             | NA        | No                    | No       | No         | No        | No            |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |           |             |           |               |               |           |                       |
| Protein Name | Accession | Gene Symbol | PDB | EC | Subunit | Description | Location |
|--------------|-----------|-------------|-----|----|---------|-------------|----------|
| Vascular endothelial growth factor D | O43915 | VEGFD | 1 | DLIQHPK | NA | NA | No | No |
| Vascular non-inflammatory molecule 3 | Q9YF84 | VNN3 | 1 | TETPVS | NA | NA | No | No |
| Vasopressin | Q6EMK4 | VASN | 1 | YLOGSSV | QLR | NA | NA | Yes | No |
| Vitamin K-dependent protein C | P04070 | PROC | 1 | LG6YDLR | NA | NA | Yes | No |
| Xaa-Pro dipeptidase | P12955 | PEPO | 1 | AVYEAVLR | NA | NA | Yes | No |
| Complement C4-B | P0COL5 | C4B; C4B_2 | NA; NA | 6 | AEMADQQAAWLT;LRT;AE[-1]+15.994915;ADQAAWLT;ASSFLGEK;GSSTWLTAFLV;LQETSNWLLSQQADG | SFQDLSVP/HVR;PVAFSVVPTAQATAVSLK | NA | Yes |
| Immunoglobulin lambda constant 2; Immunoglobulin lambda constant 3 | P0CG05; P0CG06 | VNN3 | 1 | TETPVS | NA | NA | 2 | AAPSVTLPFFPSSIEELQANKATE[+]57.021464]LISDFYGAVTVWK;AGVETTTPSK | NA | Yes |
| Selenoprotein P | P49908 | SELENOP | NA | NA | 4 | DDAOYDR;DM[-1]+15.994915;PASEDELQDLQK;LPTDOSEAPR;LVYVLGLPFSFLTYPYVEEAIK | | NA | Yes |
| Inter-alpha trypsin inhibitor heavy chain H3 | Q06033 | ITIH3 | NA | NA | 9 | DYIFGNYIER;ELHLQATPETLQEARM;EVSDVLELPK;GTMNIDGILRL;LVDHDMNSF;LVDHD[+]57.021464]NSF | | NA | Yes |
| Immunoglobulin lambda variable 6-57; Immunoglobulin ulin lambda variable 6-57 | P06318; P06319 | IGLV6-57; IGLV6-57 | NA | NA | 1 | FSSGIDSSSNSALTISGLK | | NA | Yes |
| Keratin, type II cytoskeletal 1 | P04264 | KRT1 | NA | NA | 13 | AEAEASLYQSK;AQYEDIAQK;DYQELM;[-1]+15.994915]N[J;T;FLEQQAGQVLQKWTQLQVQVTSTR/;LALDEAATYP;LNDLEDELQQAK;LSQEQNMDN;Q/SNLLQQSSDEAQQR;SLDLDSDAAP;THNLYFESFINSLR;TIAENEFVTIK;WELQ | | NA | Yes |
| Monocyte differentiation antigen CD14 | P08571 | CD14 | NA | NA | 2 | AYTVNPSSAPR;SWLAELOQQWLQ | | NA | Yes |
| Immunoglobulin kappa constant | P01834 | IGKC | NA | NA | 5 | DSSYLSSTLTSK;HKVY[+]57.021464]EVTSHQQLSVPVT;SGTASVVC;[-57.021464]LLNNFIPY;[VDNL0QQSN | SQESVTQGES;VYAC[+]57.021464]EVTSHQQLSVPVT | NA | Yes |
| Immunoglobulin kappa variable 1D-33 | P01613 | IGKV1D-33 | NA | NA | 2 | DIQM[+]57.021464]TSQPSLSSATVGD;LIIYDASNLTEGVPSR | | NA | Yes |
| Haptoglobin-related protein | P00739 | HPR | NA | NA | 2 | VGYVSGWGQSDNF;VVLHNPYYQVDIGLK | | NA | Yes |
| Immunoglobulin kappa variable 1-16 | P04430 | IGKV1-16 | NA | NA | 1 | DQHTQPSLSSATVGD | | NA | Yes |
| Immunoglobulin kappa variable 1-5 | P01602 | IGKV1-5 | NA | NA | 4 | ASSLESGVPS;DIQM[+]57.021464]TSQPSLSSATVGD;LIIYDASNLTEGVPSR | | NA | Yes |
| Protein Name | Accession | Description | FASTA Sequences | Function |
|--------------|------------|-------------|-----------------|----------|
| Immunoglobulin heavy constant alpha 1 | P01876 | IGH A1 | NA | NA | 2 | DASGVTFTWTTPSSGK;TPLATL5K | NA | Yes |
| Immunoglobulin kappa variable 3-20 | P01621 | IGKV3-20 | NA | NA | 2 | ASQSVVSSYLAHYQQK;LLYGAT5R;ASQSVVSSNLAHYQQK | NA | Yes |
| Immunoglobulin kappa variable 1D-33 | P01593 | IGKV1D-33 | NA | NA | 1 | ILYDASNLETVGPR | NA | Yes |
| Immunoglobulin lambda variable 3-19 | P01714 | IGLV3-19 | NA | NA | 2 | ITC(+57.021464)QGDSLR;SELTQDPAVSAVLGQTR | NA | Yes |
| Immunoglobulin heavy variable gamma 2 | P01859 | IGHG2 | NA | NA | 4 | EPQVYTLPSREEM(+15.994915)TK;TTPPLDSDG6SFLLYSK;TTPPM(+15.994915)LDSD6SFLLYSK;VVSVLTVVHQDWNLGK | NA | Yes |
| Alpha-1-acid glycoprotein 2 | P19652 | ORM2 | NA | NA | 5 | EVAHLLFLR;NWGLSFYADKPESTKG;SDVMYTDWK;SDVM(+15.994915)YTDWK;TLMFGSYLDEK | NA | Yes |
| Hemoglobin subunit beta | P68871 | HB B | NA | NA | 8 | EFTPPVQAYAQK;FESFGQDSLTDPAVM(+15.994915)GNPK;GTFATLSELHC(+57.021464)DK;GTFATLSELHC(+57.021464)DKLHVDPENFR;LLGNVLVC(+57.021464)VLAHHGFGR;SAVTAWLGGK;VHLPPEKSAVTAWLGGK;VNVDWGGGEALGR | NA | Yes |
| Plasma kallikrein | P03952 | KLKB1 | NA | NA | 5 | EIIIIIQNY;GIEQNLQIK;AYGTG6S6SSG6SLR;YSGI6NL5D6T6K;YS6PGTPTAIK | NA | Yes |
| Complement component C8 gamma chain | P07360 | C8G | NA | NA | 3 | AEATTTLVAPQ6TAM(+15.994915)AVSTFR;QL6YGTDVG6LGR;SLPVS6DVLS6GFEQ6R | NA | Yes |
| Immunoglobulin heavy variable alpha 2 | P01877 | IGH A2 | NA | NA | 1 | DASGATFTWT6PSSGK | NA | Yes |
| Immunoglobulin kappa variable 1-17 | P01610 | IGKV1-17 | NA | NA | 1 | LLYGAT5LQSGVPR | NA | Yes |
| Immunoglobulin kappa variable 3-11 | P04433 | IGKV3-11 | NA | NA | 2 | ASQSVVSSYLAHYQQK;LLYDASNRR | NA | Yes |
| Immunoglobulin heavy variable 3-7 | P01781 | IGHV3-7 | NA | NA | 4 | EVQLVESGGGLVPGQR;GLEW6VANIK;NL6YQ6M6LIR;NL6YLOQ(+15.994915)N6LIR | NA | Yes |
| Keratin, type II cytoskeletal 4 | P19013 | KRT4 | NA | NA | 1 | LALDIEJAT6R | NA | Yes |
| Immunoglobulin kappa variable 2D-28 | P06309 | IGKV2D-28 | NA | NA | 1 | FSSG6SGTD6TLK | NA | Yes |
| Actin, cytoplasmic 1; Actin, cytoplasmic 2 | P60709-P63261 | ACTB;ACTG1 | NA | NA | 3 | GYSFTT6TAER;Q6YDES6GPS6VHR;T6TG6VM(+15.994915)DS6G6GVTHT6VPI6EG6YALPH6AILR | NA | Yes |
| Immunoglobulin kappa variable 3-20 | P01620 | IGKV3-20 | NA | NA | 2 | FSG6SG6GTDT6TL6TR;LL6YGAS6R | NA | Yes |
| Deleted. | P04434 | NA | NA | NA | 1 | EIV6MT6GSP6PT6LS6SP6GER | NA | Yes |
| Protein Name                        | Gene Name/Accession | Bootstrap Support | Leader peptide | Primary sequence                             | Disease | Evidence |
|------------------------------------|---------------------|-------------------|----------------|----------------------------------------------|---------|----------|
| Immunoglobulin heavy variable 3-53| P01767              | NA                | NA             | AEDTAVYYC[+57.021464]AR;EVQLVETGGGLQPGGSLR   | NA      | Yes      |
| Immunoglobulin lambda variable 3-21| P80748              | NA                | NA             | FSGNS5GNTATLT5R;YVLTPPSVSVPGETAR              | NA      | Yes      |
| Immunoglobulin kappa variable 1D-12| P01611              | NA                | NA             | DIQMTQSPSSVSASVGDR;DIQ[M]+15.994915]TQSPSSVSASVGDR | NA      | Yes      |
| Immunoglobulin heavy constant delta| P01780              | NA                | NA             | VPTGVVEEGLIER                                  | NA      | Yes      |
| Immunoglobulin heavy variable 3-7  | P01764              | NA                | NA             | EVQLVESGGGLVQPGGSLR                            | NA      | Yes      |
| Trypsin 1;Trypsin 2;Putative trypsin 6| P04208              | NA                | NA             | TVAGQDAVIVLLGTR                                 | NA      | Yes      |
| Serum amyloid A-2 protein          | P04208              | NA                | NA             | SGTSASLASSGLR                                  | NA      | Yes      |
| Hemoglobin subunit gamma-1; Hemoglobin subunit gamma-2| P04208 | NA                | NA             | QVKLVQAGGGVQPGGR                                | NA      | Yes      |
| Flavin reductase                   | P30043              | NA                | NA             | TVAGQDAVIVLLGTR                                 | NA      | Yes      |
| Gene Name | Accession | Protein | Isoform | Score | Peptide                                | Modification | Pathway | Publication |
|-----------|-----------|---------|---------|-------|----------------------------------------|--------------|---------|-------------|
| Hemoglobin subunit delta | P02042 | HBD | NA | NA | 3 | EFPTQMI(+15.994915)QAAYQK;TAVNALWGK;VNVDAVGGEALGR | NA | Yes |
| Immunoglobulin heavy constant gamma 4 | P01861 | IGH4 | NA | NA | 1 | TPPVLSDG5FLLYSR | NA | Yes |
| Immunoglobulin J chain | P01591 | JCHAIN | NA | NA | 2 | IVPLNRR;SSEDPNEDIVER | NA | Yes |
| Transforming growth factor-beta-induced protein ig-h3 | Q15582 | TGBI | NA | NA | 2 | LTILAPLN5VFK;YHIGDEILVSGGIGALVR | NA | Yes |
| Keratin, type II cytoskeletal 1b | Q72794 | KRT77 | NA | NA | 1 | YQELQITAGR | NA | Yes |
| Polymeric immunoglobulin receptor | P01833 | PIGR | NA | NA | 1 | DGFSVVTITGLR | NA | Yes |
| C-1-tetrahydrofolate synthase, cytoplasmic | P11586 | MTHFD1 | NA | NA | 1 | AAQAPSSFQLLYDLK | NA | Yes |
| L-lactate dehydrogenase A chain | P00338 | LDHA | NA | NA | 1 | DYNVTANSK | NA | Yes |
| C4b-binding protein beta chain | P20851 | C4BPB | NA | NA | 1 | ALLAFQESK | NA | Yes |
| Myoglobin | P02144 | MB | NA | NA | 1 | VEADIPGHGQEVLIR | NA | Yes |
| Immunoglobulin heavy variable 1-2 | P23083 | IGHV1-2 | NA | NA | 1 | QAPGGGLEMGR | NA | Yes |
| Immunoglobulin heavy variable 4-34 | P06331 | IGHH4-34 | NA | NA | 1 | VTSLDTSK | NA | Yes |
| Platelet factor 4;Platelet factor 4 variant | P02776;P10720 | PF4;PF4V | NA | NA | 1 | HITSLEVIK | NA | Yes |
| Platelet basic protein | P02775 | PPBP | NA | NA | 2 | KEEKLSLDYAEILR;NCQSLVIGK | NA | Yes |
| Immunoglobulin kappa variable 1-5;Immunoglobulin kappa variable 1D-33 | P01604;P01609 | IGKV1-5;IGKV1D-33 | NA | NA | 1 | ASTLETGVP5R | NA | Yes |
| Keratin, type I cytoskeletal 19 | P08727 | KRT19 | NA | NA | 1 | VLDETLAR | NA | Yes |
| Carbonic anhydrase 2 | P00918 | CA2 | NA | NA | 2 | GGPLDGTYR;VVDVLDI5K | NA | Yes |
| Profilin-1 | P07737 | PFN1 | NA | NA | 1 | TFVNITPAEVMGVLGK | NA | Yes |
| Immunoglobulin kappa variable 4-1 | P01625 | IGKV4-1 | NA | NA | 1 | SSQSVYSSNSK | NA | Yes |
| Protein Name                                      | Uniprot ID | Description                                                                 | Accessions | Start | End   | Score | Modif. Score | Yes/No |
|--------------------------------------------------|------------|-----------------------------------------------------------------------------|------------|-------|-------|-------|--------------|--------|
| Immunoglobulin lambda variable 7-43             | P04211     |                                                                            | IGLV7-43   | NA    | NA    | 1     | FSGSLLGGK    | NA     |
| Dermcidin                                        | P81605     |                                                                            | DCD        | NA    | NA    | 1     | ENAGEDPGLAR  | Yes    |
| Synembryn-B                                      | Q9NVT3     |                                                                            | RIC8B      | NA    | NA    | 1     | GSSYREGLTPV[5S][S][21464][5R] | NA     |
| Keratin, type II cuticular Hb6; Keratin, type II cuticular Hb3; Keratin, type II cuticular Hb5; Keratin, type II cuticular Hb1 | O43790; P78385; P7838; Q14533 | KRTB6; KRTB3; KRTB5; KRTB1 | NA    | NA    | 1     | FAAFIKD     | NA     |
| Immunoglobulin lambda variable 1-51            | P01702; P06316 |                                                                            | IGLV1-51; IGLV1-51 | NA | NA | 1 | LLYDNNK | NA |
