| Name and rank by expression | Symbol | Function | Cell expression |
|-----------------------------|--------|----------|-----------------|
| **Underexpressed genes**   |        |          |                 |
| 1. Insulin-like growth factor binding protein | IGFBP4 | Inhibit insulin growth factor | NK cells, MAIT T-cells |
| 2. Cerebellin 3 precursor | CBLN3 | Unknown | B-cells |
| 3. Immunoglobulin lambda variable 2-8 | IGLV2-8 | Immunoglobulin light chain structure | * |
| 4. Immunoglobulin heavy variable 4-39 | IGHV4-39 | Immunoglobulin heavy protein | * |
| 5. Immunoglobulin lambda variable 3-25 | IGLV3-25 | Immunoglobulin protein | * |
| 6. Immunoglobulin heavy 3-15 | IGHV3-15 | Immunoglobulin heavy protein | * |
| 7. Major histocompatibility complex, class II, DO beta | HLA-DOB | Suppresses peptide loading of MHC class II molecules | B-cells |
| 8. RAS guanyl releasing protein 3 | RASGRP3 | RAS activation of B-cells | B-cells, Basophils |
| 9. Immunoglobulin kappa variable 3-20 | IGKV3-20 | Immunoglobulin protein | * |
| 10. Immunoglobulin lambda variable 1-40 | IGVL1-40 | Immunoglobulin protein | * |
| 11. CD74 molecule | CD74 | Regulates antigen presentation | B-cells, Myeloid and plasmacytoid DCs |
| 12. BAF chromatin remodeling complex subunit BCL7A | BCL7A | Tumor-suppressor gene | pDCs, Naïve B-cells |
| 13. Immunoglobulin lambda variable 2-28 | IGLV2-28 | Immunoglobulin protein | * |
| 14. Immunoglobulin heavy joining 6 | IGHJ6 | Immunoglobulin protein | * |
| 15. PNPLA7 patatin like phospholipase domain containing | PNPLA7 | Regulation of adipocyte differentiation | Naïve B-cells, T-reg |

**Supplementary Table 4.** The 15 most underexpressed genes in JDM at baseline compared to outcome following treatment initiation. NK: natural killer cells, MAIT: mucosal-associated invariant T-cells, *: data unavailable in the Human Protein Atlas, T-reg: regulatory T-cells. pDCs: plasmacytoid dendritic cells