Immunization against Leukemia Inhibitory Factor and Its Receptor Suppresses Tumor Formation of Breast Cancer Initiating Cells in BALB/c Mouse

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Supplementary data

rtLIF protein sequence:
rtLIFR protein sequence:

**Tetanus peptide**
MQYIKANSKFIGITELAAA

**Ig-like domain (D3)**
MSPTKVLSGQIGNTLRPLIHLYGQTVAIHLNIPVSENSGTNIIF

**Part of CBM2 (D4)**
TGLVGPRNTEYTLFESISGKSAVFHRIEGLTNETYRLGVQMHTGL

**His tag**
PGQEIHNFILTGRNPLGQAQSAVVINVTAALA

AAALEHHHHHHH
Supplementary Table 1: Kolaskar and Tongaonkar method predicted peptides

| No. | Start | End | Peptide          | Length |
|-----|-------|-----|------------------|--------|
|     |       |     | **LIF**          |        |
| 1   | 16    | 22  | MVAYLSA          | 7      |
| 2   | 39    | 44  | VSLQVK           | 6      |
| 3   | 57    | 64  | SNVLCRLC         | 8      |
| 4   | 69    | 78  | VGHVDVPPVP       | 10     |
|     |       |     | **LIFR**         |        |
| 1   | 9     | 15  | QDKVVLA          | 7      |
| 2   | 20    | 32  | TICCMSPTKVLSG    | 13     |
| 3   | 39    | 57  | RPLIHLYGQTVAIHILNIP | 19 |
| 4   | 75    | 82  | YGTVVFAG         | 8      |
| 5   | 84    | 96  | PPDVPQKLSCETH    | 13     |
| 6   | 130   | 136 | KSAVFHR          | 7      |
## Supplementary Table 2: ElliPro predicted linear epitope(s)

| No. | Start | End | Peptide                          | Number of residues | Score  |
|-----|-------|-----|----------------------------------|--------------------|--------|
|     |       |     | **LIF**                          |                    |        |
| 1   | 50    | 58  | KVLNPTAVS                        | 9                  | 0.808  |
| 2   | 18    | 24  | SHGNGTE                          | 7                  | 0.707  |
| 3   | 79    | 107 | CRLCNKYRVGHDVPPVPDHSDKEAFQRK     | 29                 | 0.701  |
| 4   | 122   | 128 | SVVVQAF                          | 7                  | 0.564  |
|     |       |     | **LIFR**                         |                    |        |
| 1   | 70    | 76  | ITDDDDVY                         | 7                  | 0.829  |
| 2   | 151   | 160 | QMHPGQEIHN                       | 10                 | 0.786  |
| 3   | 125   | 132 | FESISGKS                         | 8                  | 0.76   |
| 4   | 173   | 192 | QSAVVINVTGSQYIKANSF              | 20                 | 0.737  |
| 5   | 3     | 7   | TETNV                            | 5                  | 0.716  |
| 6   | 24    | 57  | CMSPTKVLSGQIGNTRLPLIHLYGQTVAIHLNI| 34                 | 0.683  |
| 7   | 96    | 101 | THDLKE                           | 6                  | 0.657  |
| 8   | 140   | 144 | GLTNE                            | 5                  | 0.581  |
| 9   | 16    | 19  | AGSN                             | 4                  | 0.533  |
### Supplementary Table 3: ElliPro predicted discontinuous epitope(s)

| No. | Residues                                                                 | Number of residues | Score  |
|-----|---------------------------------------------------------------------------|--------------------|--------|
| LIF | **1**:K50, _:V51, _:L52, :N53, :P54, _:T55, _:A56, _:V57, _:S58, _:V61, _:K62 | 11                 | 0.775  |
|     | **2**:C79, _:R80, _:L81, _:C82, :N83, :K84, _:Y85, _:R86, _:V87, _:G88, _:H89, _:V90, _:D91 | 13                 | 0.712  |
|     | **3**:P96, _:D97, _:H98, :S99, :D100, _:K101, _:E102, _:A103, _:F104, _:Q105, _:R106, _:K107, _:L109 | 13                 | 0.7    |
|     | **4**:S18, _:H19, _:G20, :N21, _:G22, _:T23, _:E24, _:K118, _:Q119, _:S122, _:V123, _:V124, _:V125, _:Q126 | 14                 | 0.653  |
|     | **5**:V92, _:P93, _:P94, _:V95                                           | 4                  | 0.543  |

| LIFR | **1**:T96, _:H97, _:D98, _:L99, _:K100, _:E101, _:F125, _:E126, _:S127, _:I128, _:S129, _:G130, _:K131, _:S132, _:M152, _:H153, _:P154, _:G155, _:Q156, _:E157, _:I158, _:H159, _:N160, _:V177, _:I178, _:N179, _:V180, _:T181, _:G182, _:S183, _:Q184, _:Y185, _:I186, _:K187, _:A188, _:N189, _:S190, _:K191 | 38                 | 0.763  |
|      | **2**:T3, _:E4, _:T5, _:N6, _:V7, _:F8, _:C24, _:M25, _:S26, _:P27, _:T28, _:K29, _:V30, _:L31, _:S32, _:Q34, _:I35, _:G36, _:N37, _:T38, _:L39, _:R40, _:P41, _:L42, _:L43, _:H44, _:L45, _:Y46, _:G47, _:Q48, _:T49, _:V50, _:A51, _:I70, _:T71, _:D72, _:D73, _:D74, _:V75, _:Y76 | 40                 | 0.731  |
|      | **3**:A16, _:G17, _:S18, _:N19, _:H53, _:L55, _:N56, _:I57               | 8                  | 0.585  |
|      | **4**:I138, _:G140, _:L141, _:T142, _:N143, _:E144                      | 6                  | 0.566  |
Supplementary Figure 1a: full length gels of Fig 2a.
Supplementary Figure 1b: full length blot of Fig 2b.