**Supplementary Table 1:** Effect of CCL25 and TNF-α on cartilage marker gene expression.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Probe set ID** | **Gene symbol** | **Gene title** | **21\_0  vs. 14\_0** | **21\_5  vs. 21\_0** | **21\_500  vs. 21\_0** | **21\_0\_T vs. 21\_0** | **21\_5\_T  vs. 21\_0\_T** | **21\_500\_T vs. 21\_0\_T** |
|  | | | | | | | | |
| **Composition** | | | | | | | | |
| ***Collagens*** | | | | | | | | |
| Ssc.16016.1.S1\_at | *COL2A1* | *collagen, type II, alpha 1* | -1.15 | -1.15 | **-1.62** | **-2.83** | 1.23 | 1.00 |
| Ssc.5895.1.A1\_at | *COL6A1* | *collagen, type VI, alpha 1* | 1.41 | -1.41 | **-1.52** | -1.32 | 1.23 | 1.00 |
| Ssc.16589.1.S1\_at | *COL6A3* | *collagen, type VI, alpha 3* | 1.15 | -1.23 | 1.00 | 1.00 | 1.15 | 1.07 |
| Ssc.24708.2.S1\_at | *COL9A1* | *collagen, type IX, alpha 1-like* | -1.15 | -1.23 | -1.41 | **-2.83** | 1.41 | -1.07 |
| Ssc.19233.1.S1\_at | *COL9A2* | *collagen, type IX, alpha 2* | -1.32 | -1.15 | -1.41 | **-2.30** | 1.23 | 1.00 |
| Ssc.26569.1.S1\_at | *COL11A1* | *collagen, type X, alpha 1* | -1.07 | -1.07 | -1.15 | **-1.62** | 1.00 | 1.07 |
| ***Proteoglycans*** | | | | | | | | |
| Ssc.15907.1.S1\_at | *ACAN* | *aggrecan* | -1.15 | -1.23 | -1.23 | **-1.74** | 1.23 | 1.00 |
| Ssc.5943.1.S1\_at | *BGN* | *biglycan* | 1.00 | -1.23 | -1.07 | -1.41 | 1.15 | 1.15 |
| Ssc.10245.2.A1\_a\_at | *DCN* | *decorin* | -1.07 | 1.00 | 1.23 | 1.07 | 1.00 | 1.07 |
| Ssc.11858.1.S1\_at | FMOD | *fibromodulin* | 1.07 | -1.23 | 1.00 | -1.23 | 1.15 | 1.07 |
| Ssc.16229.1.S1\_at | *HAPLN1* | *hyaluronan & proteoglycan link protein 1* | 1.00 | 1.07 | 1.07 | **-1.52** | 1.07 | 1.07 |
| Ssc.26357.1.S1\_at | HSPG2 | *heparan sulfate proteoglycan 2* | 1.23 | 1.07 | -1.52 | -1.15 | 1.07 | -1.07 |
| Ssc.1128.1.S1\_at | *LUM* | *lumican-like* | 1.32 | 1.07 | 1.23 | 1.07 | -1.07 | -1.15 |
| Ssc.5663.1.S1\_at | *VCAN* | *versican* | 1.41 | -1.07 | 1.07 | -1.07 | 1.00 | -1.07 |
| ***Dedifferentiation and Hypertrophy*** | | | | | | | | |
| Ssc.4922.1.A1\_at | *ALPL* | *alkaline phosphatase, liver/bone/kidney* | -7.46 | -3.03 | 25.99 | 4.29 | -2.83 | -1.52 |
| Ssc.1091.2.S1\_at | *COL1A1* | *collagen, type I, alpha 1* | 1.15 | -1.41 | **-1.52** | **-1.52** | 1.00 | -1.23 |
| SscAffx.19.1.S1\_at | *COL10A1* | *collagen, type X, alpha 1* | -2.14 | 3.03 | 1.62 | 1.52 | -1.32 | -6.06 |
| ***Others*** |  |  |  |  |  |  |  |  |
| Ssc.28514.1.S1\_at | *CSPG4* | *chondroitin sulfate proteoglycan 4* | 1.07 | -1.15 | -1.23 | **-1.62** | 1.15 | 1.00 |
| Ssc.16356.1.S1\_at | *COMP* | *cartilage oligomeric matrix protein* | -1.23 | -1.23 | **-1.52** | **-1.74** | 1.23 | -1.07 |
| Ssc.27881.1.S1\_at | *HAS3* | *hyaluronan synthase 3* | -1.62 | -1.52 | 1.15 | 1.00 | -1.41 | 1.15 |
| Ssc.195.1.S1\_at | *SHAS2* | *hyaluronan synthase 2* | -1.15 | -1.15 | -1.15 | -1.23 | 1.15 | 1.07 |
| Ssc.16373.1.S1\_at | *SOX9* | *SRY (sex determining region Y)-box 9* | -1.15 | -1.07 | -1.32 | 1.00 | 1.07 | 1.07 |
|  | | | | | | | | |
| **Catabolic factors** | | | | | | | | |
| ***Metalloproteases and Inhibitors*** | | | | | | | | |
| Ssc.16013.1.S1\_at | *MMP1* | *matrix metallopeptidase 1* | 1.07 | 1.23 | **2.00** | **2.83** | -1.41 | -1.07 |
| Ssc.5713.1.S1\_at | *MMP2* | *gelatinase A* | 1.32 | -1.23 | -1.15 | 1.00 | 1.07 | 1.07 |
| Ssc.15927.2.S1\_at | *MMP3* | *matrix metallopeptidase 3* | **-2.64** | 1.23 | 1.52 | **2.14** | -1.15 | -1.15 |
| Ssc.16790.1.S1\_at | *MMP9* | *matrix metallopeptidase 9* | -1.32 | -1.32 | -1.74 | -1.23 | 1.15 | -3.73 |
| Ssc.16053.1.S1\_at | *MMP13* | *matrix metalloproteinase 13* | **-2.00** | 1.52 | **2.00** | **3.03** | -1.32 | 1.32 |
| Ssc.734.1.S1\_at | *MMP14* | *matrix metallopeptidase 14* | 1.23 | -1.23 | -1.23 | -1.15 | 1.07 | -1.07 |
| Ssc.24047.1.S1\_at | *ADAMTS3* | *a disintegrin and metalloproteinase with thrombospondin motifs 3-like* | -1.15 | -1.07 | -1.41 | -1.74 | 1.15 | 1.41 |
| Ssc.11784.1.S1\_at | *TIMP1* | *TIMP metallopeptidase inhibitor 1* | 1.15 | -1.23 | -1.07 | 1.00 | 1.15 | -1.07 |
| Ssc.11257.1.S1\_at | *TIMP2* | *TIMP metallopeptidase inhibitor 2* | 1.23 | -1.23 | -1.15 | -1.23 | 1.15 | 1.00 |
| Ssc.16028.1.S1\_at | *TIMP3* | *tissue inhibitor of metalloproteinase-3* | 1.23 | -1.07 | 1.23 | 1.15 | 1.00 | 1.23 |
| Ssc.16027.1.S1\_at | *TIMP4* | *tissue inhibitor of metalloproteinase-4* | -9.85 | -1.07 | 2.00 | 5.28 | 1.15 | 1.15 |
| ***Serine proteases*** |  |  |  |  |  |  |  |  |
| Ssc.196.1.S1\_at | *PLAT* | *plasminogen activator, tissue* | 1.07 | -25.99 | -13.00 | -1.32 | 1.32 | -1.07 |
| Ssc.11194.1.S1\_at | *PLAU* | *plasminogen activator, urokinase* | **1.52** | -1.07 | -1.23 | 1.00 | 1.07 | -1.07 |
| ***Thiol proteases*** | | | | | | | | |
| Ssc.1181.1.S1\_at | *CTSB* | *cathepsin B* | 1.32 | -1.15 | -1.07 | -1.07 | 1.15 | 1.00 |
| Ssc.1020.1.S1\_at | *CTSK* | *cathepsin K* | 1.32 | -1.07 | 1.15 | 1.23 | 1.15 | 1.15 |
| Ssc.14524.1.S1\_at | *CTSL* | *cathepsin L* | 1.00 | 1.00 | 1.15 | 1.07 | 1.07 | -1.07 |
| Ssc.17203.1.A1\_at | *CTSS* | *cathepsin S* | **2.30** | 1.23 | 1.32 | 1.32 | -1.15 | 1.07 |
| ***Others*** | | | | | | | | |
| Ssc.5580.1.S1\_at | *FN1* | *fibronectin* | -1.41 | 1.00 | 1.23 | 1.41 | **-1.62** | 1.23 |
| Ssc.10881.1.S1\_at | *JUNB* | *jun B proto-oncogene* | -1.15 | -1.15 | **1.74** | **1.74** | 1.41 | 1.32 |
| Ssc.265.1.S2\_at | *LEP* | *leptin* | **1.62** | -1.23 | -1.15 | -1.74 | 1.87 | 1.41 |
|  |  |  |  |  |  |  |  |  |
| **Anabolic factors** | | | | | | | | |
| ***Transforming growth factor ß*** | | | | | | | | |
| Ssc.76.3.S1\_a\_at | *TGFB1* | *transforming growth factor, beta 1* | -1.07 | -1.32 | -1.32 | -1.23 | 1.41 | 1.00 |
| Ssc.92.1.S1\_at | *TGFB2* | *transforming growth factor, beta 2* | 1.07 | 1.15 | 1.23 | -1.07 | -1.07 | 1.07 |
| Ssc.27593.1.S1\_at | *TGFB3* | *transforming growth factor, beta 3* | 1.07 | -1.07 | -1.41 | -1.23 | 1.07 | -1.23 |
| ***Bone morphogenetic proteins and Antagonists*** | | | | | | | | |
| Ssc.4190.1.S1\_at | *BMP2* | *bone morphogenetic protein 2-like* | **-1.62** | -1.07 | -1.07 | 1.00 | 1.15 | 1.23 |
| Ssc.16690.1.S1\_at | *BMP4* | *bone morphogenetic protein 4* | 1.32 | -1.07 | 1.07 | 1.07 | 1.15 | 1.00 |
| Ssc.21774.1.S1\_at | *BMP7* | *bone morphogenetic protein 7* | -1.15 | 1.00 | -1.32 | -2.64 | 2.14 | 2.14 |
| Ssc.3565.1.A1\_at | *CHRD* | *chordin* | 1.41 | -1.32 | -1.15 | -1.15 | 1.07 | 1.07 |
| Ssc.4747.1.S1\_at | *FST* | *follistatin* | -1.41 | 1.00 | -1.15 | -1.52 | 1.41 | 1.07 |
| *Insulin-like growth factors* | | | | | | | | |
| Ssc.16231.3.S1\_a\_at | *IGF1* | *insulin-like growth factor 1* | -1.15 | 1.07 | 1.15 | 1.00 | 1.00 | -1.15 |
| Ssc.16058.1.S1\_at | *IGF1R* | *insulin-like growth factor 1 receptor* | **1.87** | -1.62 | -1.15 | -1.23 | 1.00 | 1.00 |
| ***Fibroblast growth factors*** | | | | | | | | |
| Ssc.17772.1.S1\_at | *FGF2* | *fibroblast growth factor 2 (basic)* | -1.32 | 1.15 | -1.07 | 1.15 | -1.41 | 1.00 |
| Ssc.214.1.S1\_at | *FGF9* | *fibroblast growth factor 9* | 1.15 | 5.66 | 6.06 | 1.07 | 13.93 | 6.50 |
| Ssc.24164.1.S1\_at | *FGF18* | *fibroblast growth factor 18* | -1.41 | -1.52 | 1.62 | 1.52 | -2.46 | -2.30 |
| ***Connective tissue growth factor*** | | | | | | | | |
| Ssc.8562.2.S1\_a\_at | *CCN2* | *connective tissue growth factor* | -1.07 | -1.15 | -1.07 | 1.07 | 1.15 | 1.00 |
| ***Lectin-related proteins*** | | | | | | | | |
| Ssc.90.1.S1\_at | *CHI3L1* | *chitinase 3 (cartilage glycoprotein-39)* | 1.00 | -1.32 | 1.07 | 1.32 | 1.23 | 1.23 |
| Ssc.21586.1.S1\_at | *LGALS3* | *Lectin. galactoside-binding, soluble, 3* | -9.19 | 1.15 | 9.19 | 2.83 | 2.14 | -2.30 |
|  | | | | | | | | |
| **Inflammatory factors** | | | | | | | | |
| ***Proinflammatory cytokines*** | | | | | | | | |
| Ssc.17573.1.S1\_at | *IL1B* | *interleukin 1, beta* | 4.92 | 1.41 | -6.50 | 1.15 | -5.66 | -4.00 |
| Ssc.62.2.S1\_a\_at | *IL6* | *interleukin 6 (interferon, beta 2)* | **-1.62** | 1.32 | 1.41 | 1.41 | -1.15 | 1.15 |
| SscAffx.23.1.S1\_at | *IL17A* | *interleukin 17A* | -1.74 | 2.64 | 16.00 | -1.52 | -2.30 | 8.57 |
| Ssc.12313.2.S1\_at | *IL17B* | *interleukin 17B* | 1.15 | 3.25 | 1.41 | -2.00 | 1.52 | 5.28 |
| Ssc.20.1.S1\_at | *IL18* | *interleukin 18* | -1.32 | 1.23 | 1.41 | **2.14** | -1.15 | -1.15 |
| Ssc.21256.1.S2\_at | LIF | leukemia inhibitory factor | **-59.71** | 1.52 | 1.74 | 10.56 | -3.48 | -7.46 |
| Ssc.100.1.S1\_at | *TNF* | *tumor necrosis factor* | 3.25 | 1.00 | 1.00 | -3.73 | 5.28 | 4.29 |
| *Eicosanoids* | | | | | | | | |
| Ssc.7314.1.A1\_at | *PGHS-2* | *prostaglandin G/H synthase-2* | **-2.64** | 1.15 | 1.41 | 1.62 | -1.07 | 1.00 |
| Ssc.1310.1.S1\_at | *PTGES* | *prostaglandin E synthase* | 1.32 | -1.32 | -1.07 | 2.30 | 1.07 | -1.07 |
| Ssc.1986.1.S1\_at | *PTGS1* | *Prostaglandin-endoperoxide synthase 1* | -1.07 | -1.07 | 1.00 | 1.07 | 1.00 | -1.07 |
| Ssc.25850.1.A1\_at | *PTGES3* | *unactive progesterone receptor, 23 kD* | 1.00 | 1.00 | -1.07 | 1.07 | -1.07 | -1.15 |