Table S1 Series Test of Cluster (STC) analysis for DEGs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **GeneSymbol** | **SPOT** | **Profile** | **N** | **T** | **PVTT** |
| COL1A1 | ID\_20 | 4 | 0 | 142.09 | 2,754.76 |
| COL1A2 | ID\_21 | 4 | 0 | 3.62 | 188.62 |
| COL3A1 | ID\_22 | 4 | 0 | -38.66 | 134.78 |
| COL5A2 | ID\_85 | 7 | 0 | 49.19 | 99.38 |
| COL4A3BP | ID\_1050 | 7 | 0 | 22.06 | 65.97 |
| COL2A1 | ID\_1439;ID\_3688 | 1 | 0 | -342.59 | -388.64 |
| COL4A1 | ID\_1440 | 7 | 0 | 264.38 | 785.38 |
| COL6A1 | ID\_1441 | 2 | 0 | -865.87 | 62.11 |
| COL6A2 | ID\_1442;ID\_3781;ID\_3782 | 4 | 0 | -725.37 | 772.84 |
| COL9A2 | ID\_1443 | 6 | 0 | 442.21 | 351.32 |
| COL9A3 | ID\_1444 | 1 | 0 | -446.94 | -494.22 |
| COL15A1 | ID\_1445 | 7 | 0 | 29.19 | 69.78 |
| COL16A1 | ID\_1446 | 6 | 0 | 58.92 | 62.35 |
| COL6A3 | ID\_1914;ID\_3774;ID\_3775 | 4 | 0 | -140.03 | 403.45 |
| COLEC10 | ID\_2295 | 1 | 0 | -77.5 | -52.83 |
| COL11A2 | ID\_3806 | 1 | 0 | -68.41 | -86.89 |
| COLEC11 | ID\_4544 | 1 | 0 | -427.09 | -319.35 |

**SPOT**: Number of genes assigned in the STEM analysis. **Profile:** The gene is situated within the trend number. The follow-up columns: The median gene expression values for each group normalized by STEM.