

Additional File 4. Differences in expression between inner cell mass (ICM) and trophectoderm (TE) for genes considered as being characteristically expressed by ICM, embryonic stem cells and TE in human or mouse.<sup>a</sup>

| Genes Considered Characteristic of ICM or embryonic stem cells |               |                          |                 |                |                |                 |              |                 |                 |               |               |                |  |
|--|---------------|--------------------------|-----------------|----------------|----------------|-----------------|--------------|-----------------|-----------------|---------------|---------------|----------------|--|
| <i>ABL2</i>  | <i>ACOT9</i>  | <i>AMD1</i>              | <i>ARHGER18</i> | <i>BXL2L14</i> | <i>CANX</i>    | <i>CCNB1</i>    | <i>CDCA2</i> | <i>CENPF</i>    | <i>CLDN7</i>    | <i>CYP2S1</i> | <b>DAB2</b>   | <i>DDX3X</i>   |  |
| <i>DNMT3L</i>  | <b>DSP</b>    | <i>EI24</i>              | <i>EIF1AX</i>   | <i>EIF2S1</i>  | <i>EIF5B</i>   | <i>EPRS</i>     | <i>FGFR2</i> | <i>FGFR3</i>    | <i>FLG</i>      | <i>FOXD3</i>  | <i>FOXH1</i>  | <i>GATA2</i>   |  |
| <b>GATA3</b>   | <i>GATAD1</i> | <i>GJC1</i>              | <i>GLTSCR2</i>  | <b>GM2A</b>    | <i>GPD1L</i>   | <i>H19</i>      | <i>HMGB1</i> | <i>HN1</i>      | <i>HSD17B11</i> | <i>IFITM2</i> | <i>IGF2R</i>  | <i>IL17RA</i>  |  |
| <b>IL6R</b> <sup>b</sup>                                       | <i>ITGA5</i>  | <i>ITGA6</i>             | <i>JAK2</i>     | <i>JUNB</i>    | <b>KDM2B</b>   | <i>KLF2</i>     | <i>KTN1</i>  | <i>LAMC1</i>    | <i>LAMP2</i>    | <i>LEFTY1</i> | <i>LRPAP1</i> | <i>MAP3K3</i>  |  |
| <i>MORC1</i>   | <i>MRPL15</i> | <i>MTCH2</i>             | <i>MUC15</i>    | <i>MYC</i>     | <b>NANOG</b>   | <i>NANOS1</i>   | <i>NODAL</i> | <b>OTX2</b>     | <i>PAX8</i>     | <i>PDPN</i>   | <i>PEG3</i>   | <i>PEX3</i>    |  |
| <i>PLK1</i>  | <i>POU2F1</i> | <i>POU5F1</i>            | <i>PPARD</i>    | <i>PTP4A1</i>  | <i>PTTG1IP</i> | <i>PUM1</i>     | <i>PUM2</i>  | <i>PYGB</i>     | <i>RAB12</i>    | <i>PYGB</i>   | <i>RAB12</i>  | <i>RAB5C</i>   |  |
| <i>RAB6A</i>   | <i>RELL1</i>  | <i>RHPN2</i>             | <i>RPL14</i>    | <i>RPL19</i>   | <i>RPL32</i>   | <i>RPL7A</i>    | <i>RUNX1</i> | <i>SALL4</i>    | <i>SBNO1</i>    | <b>SCD</b>    | <i>SIN3B</i>  | <i>SLIT3</i>   |  |
| <i>SMAD2</i>   | <i>SMAD4</i>  | <i>SMAD5</i>             | <i>SNX3</i>     | <b>SOX2</b>    | <i>SPATA13</i> | <i>SPETA5L1</i> | <b>SPIC</b>  | <i>SRRM1</i>    | <b>SSFA2</b>    | <i>STAG2</i>  | <b>STAT3</b>  | <i>TACC1</i>   |  |
| <i>TAL1</i>  | <i>TAXBP1</i> | <b>TFRC</b> <sup>c</sup> | <i>TGFBR1</i>   | <i>TGFBR3</i>  | <i>TMED2</i>   | <i>TOP2A</i>    | <i>TPRKB</i> | <i>TRNAU1AP</i> | <b>VAV3</b>     | <i>XIST</i>   | <i>ZBTB34</i> | <b>ZC3HAV1</b> |  |
| <i>ZFP42</i>   | <i>ZNF296</i> |                          |                 |                |                |                 |              |                 |                 |               |               |                |  |

| Genes Considered Characteristic of TE |                         |                |               |                |               |              |              |              |              |               |              |             |  |
|---------------------------------------|-------------------------|----------------|---------------|----------------|---------------|--------------|--------------|--------------|--------------|---------------|--------------|-------------|--|
| <b>AQP11</b>                          | <i>ARNT2</i>            | <i>ASCL2</i>   | <b>ATP1B3</b> | <i>BMP4</i>    | <i>CDH19</i>  | <i>CDH22</i> | <b>CDH24</b> | <i>CDX1</i>  | <i>CDX2</i>  | <i>CELSR2</i> | <i>CGB</i>   | <i>CGB1</i> |  |
| <i>CGB2</i>                           | <b>CGN</b> <sup>d</sup> | <i>CLDN10</i>  | <i>CLDN2</i>  | <i>CSNK1A1</i> | <b>CYP11A</b> | <i>DAAM1</i> | <b>DSC2</b>  | <b>ELF5</b>  | <i>EOMES</i> | <i>ESRRB</i>  | <i>FGFR2</i> | <i>GCM1</i> |  |
| <i>HAND1</i>                          | <i>HLA-G</i>            | <b>HSD3B1</b>  | <b>IFNT1</b>  | <i>ID2</i>     | <i>IRX3</i>   | <i>JAM2</i>  | <i>KRT1</i>  | <b>KRT18</b> | <i>LEP</i>   | <i>LHCGR</i>  | <b>MSX2</b>  | <i>OCLN</i> |  |
| <b>PAG2</b>                           | <i>PCDH1</i>            | <i>PCDHBT7</i> | <i>PSG3</i>   | <b>SFN</b>     | <i>TBX1</i>   | <i>TEAD2</i> | <i>TEAD4</i> | <b>TKDP1</b> | <b>TJP2</b>  |               |              |             |  |

<sup>a</sup> Genes in blue were upregulated in ICM and genes in red were upregulated in TE. The adjusted P value was <0.05 unless indicated by superscripts

<sup>b</sup> adjusted P=0.05

<sup>c</sup> adjusted P=0.06.

<sup>d</sup> adjusted P=0.09.