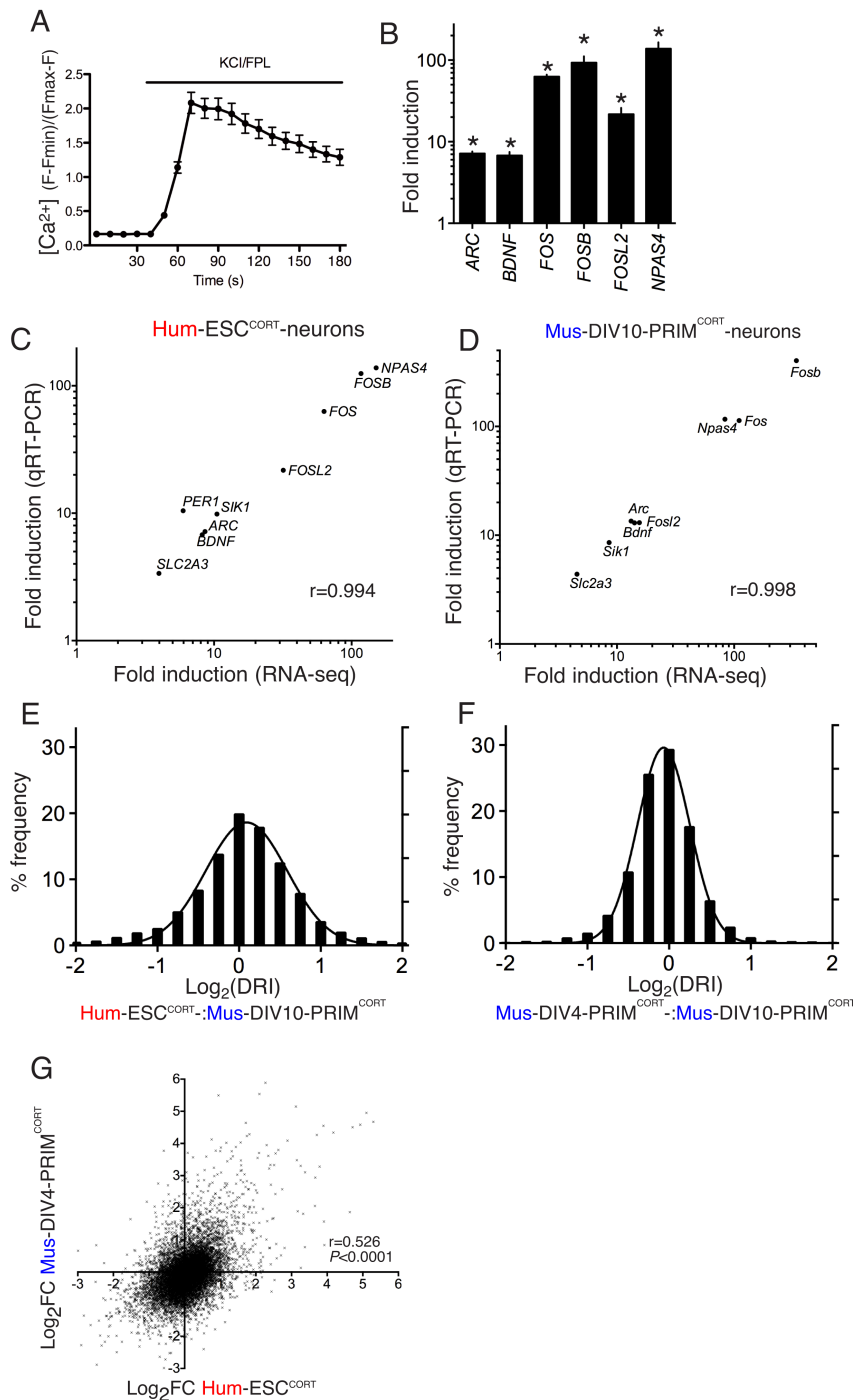


**Figure 1-figure supplement 1.**



**Figure 1-figure supplement 1. A)** Example fluo-3 Ca<sup>2+</sup> imaging trace of KCL/FPL-treated Hum-ESC<sup>CORT</sup>-neurons. **B)** qPCR analysis of the fold induction of the indicated genes in Hum-ESC<sup>CORT</sup>-neurons after 4h of KCl/FPL treatment. \*P=0.0001, 0.0013, 6E-05, 0.0005, 0.0086, 0.0010, 2-tailed *t*-test (n=3). **C,D)** A comparison of the magnitude of gene induction of a selection of human (C) and mouse (D) genes, as assayed by RNA-seq and by qRT-PCR. In both cases identical sets of 3 independent replicates were assayed and the mean calculated. **E)** For the 11,302 orthologous pairs, the "differential regulation index" (DRI) was calculated, defined as the fold-change (Hum-ESC<sup>CORT</sup>-neurons) divided by the fold-change (DIV10 Mus-PRIM<sup>CORT</sup>-neurons). The distribution of the log<sub>2</sub> of the DRIs is shown. **F)** As for (E) except the DRI was calculated for DIV4 vs. DIV10 Mus-PRIM<sup>CORT</sup>-neurons. **G)** Correlation of KCl/FPL-induced fold-change in 11,302 ortholog pairs in DIV4 Mus-PRIM<sup>CORT</sup>-neurons vs. Hum-ESC<sup>CORT</sup>-neurons.