

## Supplementary Materials and Methods

### *Primer sequences for RT-PCR analyses*

The sequences of the oligonucleotide primers used for RT-PCR are the following: H4-F: CGG GAT AAC ATT CAG GGT ATC ACT, H4-R: ATC CAT GGC GGT AAC TGT CTT CCT, N-CAM-F: GCC CCT CTT GTG GAT CTT AGT GA, N-CAM-R: ACA GCG GCA GGA GTA GCA GTT C, Otx2-F: CCA GTC ATC TCG AGC AGC ACA, Otx2-R: CAG GAG GCC GTT TGG TCT TTG, En-2-F: ACC TTC ATC AGG TCC GAG ATC, En-2-R: CCG TCC TTT GAA GTG GTC GCC, Krox20-F: AAC CGC CCC AGT AAG ACC, Krox20-R: GTG TCA GCC TGT CCT GTT AG, Xlhbox9-F:GCC CCT GCG CAA TCT GAA C, Xlhbox9-R: CAG CAG CGG CTC AGA CTT GAG, EAF2\_RT\_L: 5'-TGT GAT GGA GGG AAA GGA TT -3', EAF2\_RT\_R: 5'- TGG AAA GTG AGT CAG CTA GCA A -3'.

### *Primer sequences for the RNA polymerase II assay*

Length of RNA transcripts was monitored by RT-PCR using the following primer pairs:

Rx(p)\_L = RxeloRT1\_L: 5'- ATT TGC AGC CTG CTC TGA CT -3', Rx(p)\_R = RxeloRT1\_R: 5'- TCC TGG ACT CCT GAG CAG AT -3', RxeloRT2\_L: 5'- CAG AAG GAA CCG GAC AAC AT -3', RxeloRT2\_R: 5'- TGG ATA AAG TTG GGG TGA GC -3', RxeloRT3\_L: 5'- TTG GCA AGC CTT GGT AAA AC -3', RxeloRT3\_R: 5'- AGA GAC CTG GCT TCA AGC TG -3', Rx(d)\_L = RxeloRT4\_L: 5'- TCA ACA ACA AGC TGC AGG AC -3', Rx(d)\_R = RxeloRT4\_R: 5'- CTG GGA TCC GTT ATC TGG AA -3', Xpax6\_prox\_L: 5'- AGG AAG GAG CAA GGA GGA AG -3', Xpax6\_prox\_R: 5'- CAT CTG CTG ATC AAC GCC TA -3', Xpax6\_dist\_L: 5'- GTA AAT GGG CGG AGC TAT GA -3', Xpax6\_dist\_R: 5'- TGA TGC AGT CCT TCC AAC AG -3'.

### *Cell culture*

Primers used to monitor gene expression in HEK293 cells were: hEAF2\_RT\_L: 5'- CGA GCG GGT TCT CAA GTT AG -3', hEAF2\_RT\_R: 5'- GTC CTG GCT GAA TTC CAC AT

-3',  $\beta_2$ AR/Rfz1\_F: 5'- GCG GAC ATG CGG CGA TTC AGC -3',  $\beta_2$ AR/Rfz2\_F: 5'- CGC  
GCC ATG CAG CGA TTC CGC -3',  $\beta_2$ AR/Rfz1/2\_R: 5'- GCG GTT GTC CTG GAT CAC  
GTG -3', GAPDH\_L: 5'- AGC CAC ATC GCT TCA GAC ACC -3', GAPDH\_R: 5'- GTA  
CTC AGC GGC CAG CAT CG -3'.