

Appendix 5. Quantification of the effect of rcSF3 on the differentiation of E7 RPE in culture.

	Changes with age during normal development	Comparison of E7 cultures with native E14 RPE		Effect of rcSF3 in E7 cultures
		E7 _{in culture} /E14 _{in vivo}		
Gene title	E14 _{in vivo} /E7 _{in vivo}	SF3	rcSF3	E7 _{rcSF3} /E7 _{SF3}
midkine (neurite growth-promoting factor 2)	0.06	7.17	1.89	0.26
Plastin 3	0.12	2.80	1.00	0.36
similar to keratinocytes associated protein 1	0.22	1.26	0.06	0.05
class II bHLH protein scleraxis	0.23	6.21	2.35	0.38
Syndecan-3	0.23	1.86	0.80	0.43
NY-REN-45 antigen	0.25	1.58	0.39	0.24
KCNAB1, K ⁺ -voltage-gated channel	0.29	0.49	0.17	0.35
KCNJ5, K ⁺ -inwardly rectifying channel	0.32	1.67	0.27	0.16
CRB2, crumbs homolog	0.52	3.29	1.70	0.52
ets domain protein	0.55	2.71	1.02	0.38
ARHGEF16, Rho guanine exchange factor	0.57	0.70	2.97	4.22
axin 2 (conductin, axil)	0.58	0.97	2.01	2.08
alpha-1 chain	1.69	1.46	0.40	0.28
interleukin 1 receptor-like 1	1.73	0.01	0.08	5.91
SLC2A12, facilitated glucose transporter	2.04	0.22	0.60	2.72
SLC4A7, Na ⁺ - HCO ₃ cotransporter	2.05	2.25	6.62	2.94
growth differentiation factor 8	2.70	58.21	21.26	0.37
fibroblast growth factor 1 (acidic)	2.89	7.75	3.63	0.47
histone deacetylase 9	3.23	0.69	0.26	0.38
regulator of G-protein signaling 7	3.37	2.99	9.41	3.14
Claudin 20	3.90	1.35	3.71	2.75
KIF9, Kinesin	4.39	0.50	1.15	2.32
V-ATPASE C2 subunit	5.26	0.51	0.14	0.27
RBP1, retinol binding protein 1	5.37	0.07	0.69	10.07
cone-type transducin alpha subunit	7.03	15.94	2.09	0.13
RHO GEF 4A, Rho guanine exchange factor	11.13	0.52	1.63	3.16
RPE65	25.28	0.68	1.63	2.39
transthyretin	49.16	0.18	0.63	3.46
Claudin 1	81.45	0.02	0.08	3.67

Select genes characterized in Figure 3 and Table 3 were examined to identify those that E14 rcSF3 up-regulated or down-regulated more than 2X in cultures of E7 RPE. For

comparison, the second column indicates how gene expression would increase or decrease during normal development [1]. The third and fourth columns indicate the level of mRNA expression in different culture conditions relative to expression in vivo on E14. The last, fifth, column indicates the level of expression in rcSF3 cultures relative to SF3 cultures. For many genes, the E14-derived rcSF3 increased or decreased expression in E7 cultures in parallel with an increase or decrease that occurred during normal development. For many genes, the culture/native E14 RPE was closer to the ideal of 1.0 in the rcSF3 cultures.