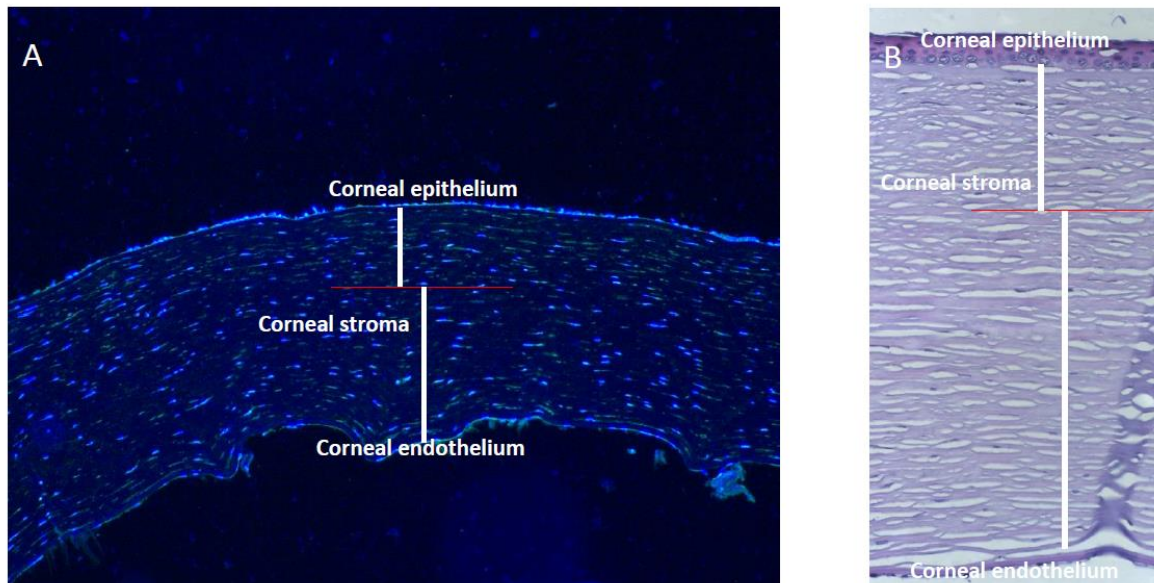


# Supplementary material



**Figure S1. Definition of the anterior (towards corneal epithelium) and posterior (towards corneal endothelium) corneal stroma.** The corneal sections have been stained for nuclei with DAPI (A) and with H&E (B).

**Table S1.** Antibodies used for immunofluorescent staining

Marker	Clone	Cat. No.	Manufacturer
ABCG2	BXP-21	B7059	Sigma-Aldrich
ABCG5	Not available	PAB20881	Abnova
$\alpha$ -Actinin	BM-75.2	A5044	Sigma
Anti-fibroblast marker	AS02	Cp28	Calbiochem
ALDH1A1	Not available	Ab23375	Abcam
CD31	M20	Sc1506	Santa Cruz
CD34	BI-3C5	Sc19621	Santa Cruz
CD73	IE9	Sc32299	Santa Cruz
CD90	H-110	Sc9163	Santa Cruz
CD105	H-300	Sc20632	Santa Cruz
CXCR4	UMB2	Ab124824	Abcam
Collagen I	Not available	Ab34710	Abcam
Collagen IV	CIV22	Ms-747-s	Thermo Scientific
Fibronectin	FN30.8	M010	Takara Bio ink
Ki-67	SP6	RM-9106-S	Thermo Scientific
Nestin	10c2	Sc23927	Santa Cruz
VE- Cadherin	BV9	Ab7047	Abcam
Vimentin	Sp20	RM-9120-s	Thermo Scientific

**Table S2.** Antibodies used for the FACS analyses of cultured CSCs.

<b>Protein</b>	<b>Clone</b>	<b>Cat. No.</b>	<b>Manufacturer</b>
ABCG2	5D3	332020	Biolegend
CD31	WM59	303106	Biolegend
CD34	581	343504	Biolegend
CD44	BJ18	338804	Biolegend
CD47	472603	FAB4670A	R&D Systems
CD49a	TS2/7	328304	Biolegend
CD49d	9F10	304304	Biolegend
CD51	NKI-M9	327908	Biolegend
CD73	AD2	344004	Biolegend
CD90	5E10	328108	Biolegend
CD105	43A3	323206	Biolegend
Nestin	196908	IC1259P	R&D Systems

**Table S3.** Surface marker FACS analyses of the CSCs cultivated under different conditions. Positive cells  $\pm$  SD are shown (n=3).

Surface marker	Central digested (%)	Central explant (%)	Peripheral digested (%)	Peripheral explant (%)
CD73	90.39 $\pm$ 9.73	98.71 $\pm$ 0.97	97.45 $\pm$ 1.49	97.18 $\pm$ 3.31
CD90	88.70 $\pm$ 7.27	95.33 $\pm$ 2.51	95.78 $\pm$ 1.52	94.96 $\pm$ 3.24
CD105	79.88 $\pm$ 5.00	88.55 $\pm$ 6.14	81.81 $\pm$ 7.85	92.64 $\pm$ 1.62
CD51	74.55 $\pm$ 7.30	86.94 $\pm$ 7.17	83.68 $\pm$ 2.78	92.49 $\pm$ 2.15
CD49a	83.24 $\pm$ 4.05	88.09 $\pm$ 9.58	82.16 $\pm$ 1.57	94.96 $\pm$ 3.37
CD49d	78.98 $\pm$ 8.94	87.97 $\pm$ 8.02	84.31 $\pm$ 6.01	93.79 $\pm$ 2.33
CD47	96.30 $\pm$ 1.83	98.07 $\pm$ 1.30	99.28 $\pm$ 0.09	97.71 $\pm$ 1.69
ABCG2	91.45 $\pm$ 3.42	94.82 $\pm$ 4.49	91.56 $\pm$ 3.37	92.11 $\pm$ 3.65
Nestin	81.64 $\pm$ 5.15	86.28 $\pm$ 10.72	75.47 $\pm$ 4.38	93.42 $\pm$ 3.53
CD34	0.02 $\pm$ 0.02	0.00 $\pm$ 0.00	0.19 $\pm$ 0.11	0.67 $\pm$ 0.67
CD31	0.13 $\pm$ 0.13	0.00 $\pm$ 0.00	0.00 $\pm$ 0.00	0.00 $\pm$ 0.00