

## Product Description

The keratocytes, or corneal fibroblasts, are highly specialized cells that are sandwiched between orthogonally arranged layers of collagen lamellae in the corneal stroma. They play a key role in maintaining the structure and transparency of the cornea, as they are the source of stromal collagen and proglycans. They also play important roles in corneal wound healing and tissue repair, and are known to undergo phenotypic transformations in wounds due to the influence of growth factors and cytokines [1]. Under normal conditions, the keratocytes in the adult cornea are relatively quiescent cells. In the event of corneal injury or trauma, however, the keratocytes differentiate into active, synthesizing cells and rapidly replace damaged stromal matrix. Cultured human keratocytes express functional IL-4Rs [2] and IL-17R [3] on the cell surface, suggesting that these cells may contribute to the role of IL-4 and IL-17 as mediators of allergic reactions in the cornea. Changes in gene expression were observed in keratocytes after interleukin-1 treatment, which provides important insight into gene expression and suggests novel therapeutic targets for the control of corneal inflammation.

iXCells Biotechnologies provides high quality Rat Keratocytes (RK), which are isolated from neonate day 2 rat cornea and cryopreserved at P1, with >0.5 million cells in each vial. RK are characterized by fibroblast morphology. They are negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi and can further expand for 5 population doublings in Fibroblast Growth Medium (Cat# MD-0011) under the condition suggested by iXCells Biotechnologies.

## Product Details

Tissue	Neonate day 2 rat cornea
Package Size	0.5 million cells/vial
Passage Number	P1
Shipped	Cryopreserved
Storage	Liquid nitrogen
Growth Properties	Adherent
Media	Fibroblast Growth Medium (Cat# MD-0011)

## References

- [1] Fini ME. (1999) Keratocyte and fibroblast phenotypes in the repairing cornea. *Prog Retin Eye Res.* 18: 529-51.
- [2] Fukuda K, Fujitsu Y, Kumagai N, Nishida T. (2002) Characterization of the interleukin-4 receptor complex in human corneal fibroblasts. *Invest Ophthalmol Vis Sci.* 43: 183-8.
- [3] Maertzdorf J, Osterhaus AD, Verjans GM. (2002) IL-17 expression in human herpetic stromal keratitis: modulatory effects on chemokine production by corneal fibroblasts. *J Immunol.* 169: 5897-903.

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