

# Comment on “Role of corneal collagen fibrils in corneal disorders and related pathological conditions”

*Khosrow Jadidi<sup>1</sup>, Hossein Aghamollaei<sup>2</sup>*

<sup>1</sup>Vision Health Research Center, Semnan University of Medical Sciences, Semnan 3519899951, Iran

<sup>2</sup>Chemical Injuries Research Center, Systems biology and Poisonings Institute, Baqiyatallah University of Medical Sciences, Tehran 411435453685, Iran

**Correspondence to:** Hossein Aghamollaei. Chemical Injuries Research Center, Systems biology and Poisonings Institute, Baqiyatallah University of Medical Sciences, Mollasadra St., Tehran 411435453685, Iran. aghmolaei22@gmail.com

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**Dear Editor,**

We read with interest the review article “Role of corneal collagen fibrils in corneal disorders and related pathological conditions” by Zhou *et al*<sup>[1]</sup>. We would like to point out the mistake that is made in the parts of the article.

In the “CORNEAL COLLAGEN DEGRADATION” section, the authors reviewed the process and factors that influence the corneal collagen and extra cellular matrix. In this section, keratinocyte was introduced as a source of myofibroblast which have a critical role in the corneal stroma wound healing process. Production of matrix metalloproteinase 1 by keratinocyte is indicated and emphasized that this process is mediated by interleukin-1 (IL-1), plasminogen, and urinary plasminogen activator (uPA). They referred this statements to Sougioca *et al*<sup>[2]</sup> and Zhou and Petroll<sup>[3]</sup>. With regard to these studies and several others it is noticeable that the corneal

stromal cells are “keratocytes” not “keratinocytes”. The role of keratocyte in stromal function and corneal repair is approved and reviewed in West-Mays and Dwivedi<sup>[4]</sup> and Petroll and Miron-Mendoza<sup>[5]</sup>.

Although keratinocytes are present in other part of ocular surface such as conjunctiva and limbus<sup>[6-7]</sup>, but presence and function of this type of cells in corneal stroma is not reported. So, “keratinocyte” in mentioned section as well as “CORNEAL COLLAGEN CONTRACTION” section should be changed to “keratocyte”.

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## REFERENCES

- 1 Zhou HY, Cao Y, Wu J, Zhang WS. Role of corneal collagen fibrils in corneal disorders and related pathological conditions. *Int J Ophthalmol* 2017;10(5):803-811.
- 2 Sugioka K, Mishima H, Kodama A, Itahashi M, Fukuda M, Shimomura Y. Regulatory mechanism of collagen degradation by keratocytes and corneal inflammation: the role of urokinase-type plasminogen activator. *Cornea* 2016;35(Suppl 1):S59-S64.
- 3 Zhou CX, Petroll WM. MMP regulation of corneal keratocyte motility and mechanics in 3-D collagen matrices. *Exp Eye Res* 2014; 121:147-160.
- 4 West-Mays JA, Dwivedi DJ. The keratocyte: corneal stromal cell with variable repair phenotypes. *Int J Biochem Cell Biol* 2006;38(10):1625-1631.
- 5 Petroll WM, Miron-Mendoza M. Mechanical interactions and crosstalk between corneal keratocytes and the extracellular matrix. *Exp Eye Res* 2015;133:49-57.
- 6 Schermer A, Galvin S, Sun TT. Differentiation-related expression of a major 64K corneal keratin in vivo and in culture suggests limbal location of corneal epithelial stem cells. *J Cell Biol* 1986;103(1):49-62.
- 7 Wei ZG, Sun TT, Lavker RM. Rabbit conjunctival and corneal epithelial cells belong to two separate lineages. *Invest Ophthalmol Vis Sci* 1996;37(4):523-533.