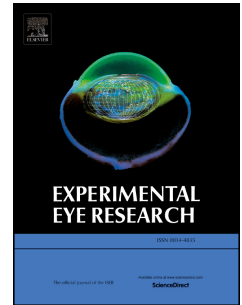


Accepted Manuscript

Endogenous retinoic acid signaling is required for maintenance and regeneration of cornea

Sandeep Kumar, Pascal Dollé, Norbert B. Ghyselinck, Gregg Duester



PII: S0014-4835(16)30449-3

DOI: [10.1016/j.exer.2016.11.009](https://doi.org/10.1016/j.exer.2016.11.009)

Reference: YEXER 7057

To appear in: *Experimental Eye Research*

Received Date: 24 July 2016

Revised Date: 13 October 2016

Accepted Date: 9 November 2016

Please cite this article as: Kumar, S., Dollé, P., Ghyselinck, N.B., Duester, G., Endogenous retinoic acid signaling is required for maintenance and regeneration of cornea, *Experimental Eye Research* (2016), doi: 10.1016/j.exer.2016.11.009.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Endogenous retinoic acid signaling is required for maintenance and regeneration of cornea

Sandeep Kumar^{1,*}, Pascal Dollé², Norbert B. Ghyselinck² and Gregg Duester^{1,*}

¹Development, Aging, and Regeneration Program, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA 92037, USA

²Institut de Génétique et de Biologie Moléculaire et Cellulaire (IGBMC), Illkirch, France; Centre National de la Recherche Scientifique (CNRS), UMR 7104, Illkirch, France; Institut National de la Santé et de la Recherche Médicale (Inserm), U 964, Illkirch, France; Université de Strasbourg, Illkirch, France

*Corresponding Authors:

duester@sbpdiscovery.org (Gregg Duester), sandeep@sbpdiscovery.org (Sandeep Kumar).

Keywords: Corneal stroma; Corneal epithelium; Retinoic acid; ALDH1A; RALDH; Mouse genetic loss-of-function

Highlights

- Retinoic acid (RA) synthesis by ALDH1A enzymes is essential for corneal maintenance.
- *Aldh1a* genetic loss-of-function in adult eye results in corneal thinning.
- RA treatment of *Aldh1a*-deficient mice rescues the corneal thinning phenotype.
- RA deficiency reduces cell proliferation & increases apoptosis in corneal epithelium.

Download English Version:

<https://daneshyari.com/en/article/5704145>

Download Persian Version:

<https://daneshyari.com/article/5704145>

[Daneshyari.com](https://daneshyari.com)