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Understanding tears and regulation of lacrimal gland secretions

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The lacrimal gland of the eye secretes a major component of tears, yet surprisingly little is still understood about the signaling pathways that activate lacrimal gland secretions. The most current knowledge of how purinergic receptors affect the function of the lacrimal gland and interact with neurotransmitters is presented in a review article published in the *Journal of Ocular Pharmacology and Therapeutics*.

Robin Hodges and Darlene Dartt, Schepens Eye Research Institute/Massachusetts Eye and Ear and Harvard Medical School, Boston, MA are coauthors of the article entitled "Signaling Pathways of Purinergic Receptors and Their Interactions with Cholinergic and Adrenergic Pathways in the Lacrimal Gland." They discuss and interpret recent research findings on the signaling pathways activated by the purinergic receptors present on the lacrimal gland. Other key topics include the regulation of lacrimal gland secretion, the potential role this regulatory activity could play in normal and pathological responses of the lacrimal gland, and mechanisms of crosstalk between purinergic and other types of receptors.

"This is a well-written, comprehensive review that nicely summarizes a complex and important area of research relevant to dry-eye disease," says Editor-in-Chief W. Daniel Stamer, PhD, Joseph A. C. Wadsworth Professor of Ophthalmology and Professor of Biomedical Engineering, Duke University, Durham, NC.

More information: Robin R. Hodges et al. Signaling Pathways of

Purinergic Receptors and Their Interactions with Cholinergic and Adrenergic Pathways in the Lacrimal Gland, *Journal of Ocular Pharmacology and Therapeutics* (2016). DOI: 10.1089/jop.2016.0008