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Rajko Igić, M.D. Ph.D

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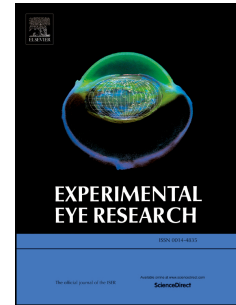
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## Four decades of ocular renin-angiotensin and kallikrein-kinin systems (1977-2017)

Rajko Igić\*

Department of Pharmacology, University of Banjaluka, 78000 Banjaluka,  
and Academy of Arts and Sciences, Republic of Srpska, Bosnia and  
Herzegovina

### Abstract

This review offers a contemporary history of the renin-angiotensin (RAS) and kallikrein-kinin (KKS) systems with emphasis on how these complex systems affect the eye. It describes the types of communication (cross-talk) between the two systems and evaluates their potential role in the development of diabetic retinopathy, diabetic macular edema, age-related macular degeneration, glaucoma, and uveitis. In addition to detailing the important physiological actions of components of the RAS and KKS, possibilities are suggested for new therapeutic avenues in the treatment of common ocular diseases. Historical notes indicate the major events in this research area, marking four decades from the first publication on the discovery of renin and angiotensin converting enzyme in the eye to the present time.

**Keywords:** renin-angiotensin system; kallikrein-kinin system; diabetic retinopathy; diabetic macular edema; age-related macular degeneration; glaucoma; uveitis; cataract

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\* Mailing address: Rajko Igić, M.D. Ph.D., Čitaonička 21, 25000 Sombor, Serbia or Department of Anesthesiology and Pain Management, John Stroger Hospital of Cook County, Chicago, IL 60612, USA; e-address: r.igic@excite.com

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