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Rethinking Nuclear Receptors as Potential Therapeutic Targets for Retinal Diseases

CHICAGO – A new review by Goldis Malek and Mayur Choudhary in the December 2016 issue of the *Journal of Biomolecular Screening* (JBS) discusses a growing body of evidence that suggests nuclear receptors may play an overlooked role in the development of pathologies associated with several retinal diseases, in light of the overlap between pathogenic pathways of retinal disorders with other nuclear receptor-regulated diseases. These studies provide promising support for consideration of therapeutic targeting of this class of receptors for treatment of various retinal disorders.

According to the authors, the human nuclear receptor superfamily is composed of 48 evolutionarily related transcription factors, which respond to endogenous ligands, including steroid hormones, fatty acids, bile acids, lipophilic vitamins, and cholesterol metabolites; and exogenous ligands, such as drugs and toxins. Functionally, nuclear receptors are critical regulators of a wide range of physiologic and developmental pathways. The myriad of molecular pathways modulated by nuclear receptors include, but are not limited to, inflammation, lipid metabolism, apoptosis, extracellular matrix regulation, energy metabolism, and angiogenesis. These pathways are of particular interest to vision scientists, as these functions are also compromised in several retinal diseases such as diabetic retinopathy, age-related macular degeneration, and retinitis pigmentosa. Collectively, these ocular disorders are the leading cause of vision loss in the Western World for which treatment options are either quite limited or unavailable. This unmet need classifies identification of new signaling pathways that contribute to initiation or progression of retinal diseases, and potential therapeutic targets, as a top priority.

Visit JBS Online at http://jbx.sagepub.com/content/21/10 to read "**Rethinking Nuclear Receptors as Potential Therapeutic Targets for Retinal Diseases**." JBS is one of two MEDLINE-indexed scientific journals published by SLAS. In 2017, JBS's name will change to ***SLAS Discovery*** (Advancing Life Sciences R&D). For more information about SLAS and its journals, visit www.slas.org/publications/scientific-journals.

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Journal of Biomolecular Screening (JBS): *2015 Impact Factor 2.218. Editor-in-Chief Robert M. Campbell, Ph.D., Eli Lilly and Company, Indianapolis, IN (USA). In 2017, JBS's title will change to* ***SLAS Discovery*** *(Advancing Life Sciences R&D).*

Journal of Laboratory Automation (JALA): *2015 Impact Factor 1.297. Editor-in-Chief Edward Kai-Hua Chow, Ph.D., National University of Singapore (Singapore). In 2017, JALA's title will change to* ***SLAS Technology*** *(Translating Life Sciences Innovation).*