



Neuroprotective effect of Wolfberry on the retina

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Abstract

Lycium barbarum (wolfberry, gogi berry, *gouqizi*, 枸杞) is one of the most widely used Chinese herbal medicines (CHMs) and is also one of the most scientifically studied. Indeed, the polysaccharide component of this berry (LBP) has been shown to have antioxidant, anti-inflammatory, anti-excitotoxic, and anti-apoptotic properties. These properties make it a particularly useful treatment option for the ocular environment. Although there are a handful of studies investigating the use of LBP to treat diseases affecting the lens, the vast majority of the published literature investigating LBP in the visual system focus on the retina. In this talk I will describe what is currently understood concerning the effects of LBP treatment on various retinal diseases, including glaucoma, ischemia/reperfusion, age-related macular degeneration, retinitis pigmentosa, and diabetic retinopathy. I then describe the functions attributed to LBP using other cellular contexts to elucidate the full mechanisms this CHM utilizes in the retina. By making connections between what is known about the function of LBP in a variety of tissues and its function as a therapy for retinal degenerative diseases, we hope to further emphasize the continued use of this CHM in clinical medicine in addition to providing a platform for additional study.

Speaker

Chair of Anatomy in the Dept of Ophthalmology and the State Key Laboratory of Brain and Cognitive Sciences, Jessie Ho Professor in Neuroscience, *The University of Hong Kong* (http://www.eyeinst.hku.hk/Prof_So.htm); Director of GHM Institute of CNS Regeneration at *Jinan University*, Guangzhou, China; member of the *Chinese Academy of Sciences*, member of the Advisory Committee, Ministry of Education/ *2011 Program*, member of *Biological and Medicine Council*/ Ministry of Education, member of Consultative Committee/ the national *973 Program*/ major national research funding program in China (www.973.gov.cn/), Director of *China Spinal Cord Injury Network* (ChinaSCINet), Co-Chairman of the Board of Director of the *ChinaSCINet* (www.chinascinet.org), and Editor-in-Chief of *Neural Regeneration Research* (www.nrronline.org). Received PhD degree from MIT. He is one of the pioneers in the field of axonal regeneration in visual system. He was the first to show lengthy regeneration of retinal ganglion cells in adult mammals with peripheral nerve graft. He is currently using multiple approaches to promote axonal regeneration in the optic nerve and spinal cord. His team identifies neuroprotective and regenerative factors including: exercise, wolfberry, trophic factors, peptide nanofiber scaffold, and environmental manipulation. 1995 obtained the Natural Science Award of the National Natural Science Foundation of China. 1999 was elected Member of the Chinese Academy of Sciences. 2015 was elected US National Academy of Invention Fellow. He is the author and co-author of over 390+ publications (http://scholar.google.com/citations?hl=en&user=SUPKYiQAAAAJ&view_op=list_works); co-inventors of 25 patents.

****All are Welcome****