

Pathways Bioscience Announces Publication of Scientific Paper on the Complexity of the Nrf2 Transcription Factor Pathway

The complexity of the Nrf2 pathway reflects its evolutionary importance in biology

AURORA, COLORADO, UNITED STATES, February 14, 2023 /EINPresswire.com/ -- [Pathways Bioscience LLC](#), a biomedical sciences company focused on discovering and developing dietary



Pathways Bioscience is committed to creating products that keep up with the rapidly expanding knowledge base surrounding health and longevity. Twenty years ago is ancient history!"

Dr. Joe M. McCord

supplements and small molecule drugs that act on gene transcription pathways, and the provider of the Nrf2 activating dietary supplements PB123™ and PB125® announces the recent peer-reviewed publication of a scientific review article entitled "The Complex Genetic and Epigenetic Regulation of the Nrf2 Pathways: A Review" in a Special Issue (Nrf2 Antioxidative Pathway and NF-κB" Signaling) of the journal Antioxidants. The open access article may be viewed [here](#).

This review describes the unusually complex pathway leading to the activation and control of the Nrf2

transcription factor, known as the Master Regulator of Survival Genes. The activation of Nrf2 causes the direct or indirect regulation of up to 2,500 of the body's genes that are involved in hundreds of diseases, making it an attractive target for both pharmaceutical and health/longevity applications. "The purpose of the article," said Prof. Joe McCord, the scientific leader and co-founder of Pathways Bioscience, "is to change how researchers view controlling the pathway. Twenty years ago most scientists viewed Nrf2 activation as a one-step process, but now at least 45 control points are known to exist. The pathway is now better described as a network with several well-defined nodes, each of which has numerous points for activation or deactivation of the factor."

"At Pathways Bioscience we continue to be fascinated by the role that Nrf2 appears to play in many aspects of healthy aging, including its beneficial effects against the Hallmarks of Aging, its role in the body's hormetic responses to stresses, its role in strengthening of the body's defenses against exposure to environmental toxins, its involvement in the maintenance of aging muscles and mitochondria, its contribution to immune system responses, and its benefits in other biological functions that decline with aging. Over the past several years, research findings from

around the world have revealed that there is an intricate network of signals that increase and decrease the activity of the Nrf2 transcription factor and of the genes that it regulates," said Dr. Brooks Hybertson, President/CEO and co-founder of Pathways Bioscience, "and understanding the complexity of that network of signals involved in the Nrf2 may help us and others develop new combinations of agents for influencing Nrf2 and optimizing the human healthspan."

"Pathways Bioscience is committed to creating products that keep up with the rapidly expanding knowledge base surrounding health and longevity. Twenty years ago is ancient history!" says Dr. McCord.

About Pathways Bioscience

Pathways Bioscience LLC is a biomedical sciences company focused on discovering and developing new agents, both small molecule drugs and dietary supplements, that influence gene expression pathways and exert beneficial effects, with particular emphasis on the Nuclear Factor, Erythroid 2 Like 2 (NFE2L2, or Nrf2) gene transcription factor, known as the master regulator of cell protection mechanisms. These activities are based on the concept that the best way to improve healthspan and overcome the health and wellness problems associated with aging is to support the body's own defense mechanisms that allow it to normalize, protect, and heal itself. The company's headquarters are in Aurora, Colorado. Pathways Bioscience has developed the PB123 and PB125 dietary supplement formulations using Nrf2.0® Technology. PB123 is currently available in Latin America through a partnership with Activz LLC in their GNM-X product and [PB125 is currently available](#) in the US directly from Pathways Bioscience on the Company's Website at www.pathwaysbio.com.

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