

Fish oil protects against diseases like Parkinson's, study

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Dr. Nicolas Bazan, Director of the Neuroscience Center of Excellence, Boyd Professor, and Ernest C. and Yvette C. Villere Chair of Retinal Degenerative Diseases Research at LSU Health Sciences Center New Orleans, will present new research findings showing that an omega three fatty acid in the diet protects brain cells by preventing the misfolding of a protein resulting from a gene mutation in neurodegenerative diseases like Parkinson's and Huntington's.

He will present these findings for the first time today at the Ernest N. Morial Convention Center, Nouvelle C Room, at the American Society for Nutrition, Experimental Biology 2009 Annual Meeting.

With funding from the National Eye Institute of the National Institutes of Health, Dr. Bazan and his colleagues developed a cell model with a mutation of the Ataxin-1 gene. The defective Ataxin-1 gene induces the misfolding of the protein produced by the gene. These misshapened proteins cannot be properly processed by the cell machinery, resulting in tangled clumps of [toxic protein](#) that eventually kill the cell. Spinocerebellar Ataxia, a disabling disorder that affects speech, eye movement, and hand coordination at early ages of life, is one disorder resulting from the Ataxin-1 misfolding defect. The research team led by Dr. Bazan found that the omega three fatty acid, docosahexaenoic acid (DHA), protects cells from this defect.

Dr. Bazan's laboratory discovered earlier that neuroprotectin D1 (NPD1), a naturally-occurring molecule in the human brain that is derived from DHA also promotes brain cell survival. In this system NPD1 is capable of rescue the dying cells with the pathological type of Ataxin-1, keeping their integrity intact.

"These experiments provide proof of principle that neuroprotectin D1 can be applied therapeutically to combat various [neurodegenerative diseases](#)," says

Dr. Bazan. "Furthermore, this study provides the basis of new therapeutic approaches to manipulate retinal pigment epithelial cells to be used as a source of NPD1 to treat patients with disorders characterized by this mutation like Parkinson's, Retinitis Pigmentosa and some forms of Alzheimer's Disease."

Source: Louisiana State University ([news](#) : [web](#))

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