

Researchers identify potential treatment

Researchers at the Neuroscience Center of Excellence at LSU Health New Orleans School of Medicine have found a new mechanism by which a class of molecules

the lab discovered may protect brain and retinal cells against neurodegenerative diseases like age-related macular degeneration and Alzheimer's.

Results, published in PNAS Latest Articles, identify "elovanoids" as a potential new treatment. Elovonoids are bioactive chemical messengers made from omega-3 very long-chain polyunsaturated fatty acids.

As humans age, cells gradually function more sluggishly and eventually become senescent, losing their ability to divide and renew. Senescence can be beneficial earlier in life by aiding wound healing and preventing tumor development, among other things.

However, at older ages tissues become littered with these dysfunctional cells, which then attract inflammatory immune cells. Along with accumulations of the toxic protein Amyloid beta in brain and retinal tissues, the resulting chronic inflammation can lead to brain and photoreceptor cell death and the development of neurodegenerative diseases.

In experimental models of age-related macular degeneration and Alzheimer's disease, the researchers found that elovanoids counteracted these processes and also restored the structure and integrity of cells.

Although the paper shows that elovanoids can protect the retina and likely brain as well, researchers cautioned that further research is needed.

Research was led by Dr. Nicolas Bazan, the Boyd Professor and director of the Neuroscience Center of Excellence at LSU Health New Orleans School of Medicine. Other members of the LSU Health New Orleans Neuroscience Center research team include Khanh V. Do and Drs. Marie-Audrey I. Kautzmann, Bokkyoo Jun and William C. Gordon. Robert Nshimiyimana, Rong Yang and Nicos A. Petasis from the University of Southern California, Los Angeles, also participated.