The power of cocoa polyphenols against neurodegenerative diseases

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Epidemiological studies have indicated that dietary habits and antioxidants from diet can influence the incidence of neurodegenerative disorders such as Alzheimer's and Parkinson's diseases. In the recent years, a number of papers have reported on neuroprotective effects of polyphenols in cell and animal models.

However, the majority of these studies have focused only on the anti-oxidant properties of these compounds and less on the mechanism/s of action at cellular and molecular levels. Now, a new study from the Sbarro Health Research Organization (SHRO, Center for Biotechnology, Temple University, Philadelphia PA USA), Lombardi Cancer Center , Georgetown University and the University of L'Aquila (Italy)) shows that cocoa polyphenols triggers neuroprotection by activating BDNF survival pathway, both on Aß plaque treated cells and on Aß oligomers treated cells, resulting in the counteraction of neurite dystrophy.

The findings, published in *Journal of Cellular Biochemistry*, may have important implications for prevention of cognitive impairment in elderly and in neurodegenerative diseases in counteracting disease's progression. "Our studies indicate for the first time the cocoa polyphenols do not act only as mere anti-oxidant but they, directly or indirectly, activate the BDNF survival pathway counteracting neuronal death" says Annamaria Cimini of the University of L'Aquila, lead author of the study.

"Understanding the preventive potential and the mechanism of action of functional food may provide a means to limit cognitive impairment

progression" says Antonio Giordano, founder and director of the Sbarro Institute for Cancer Research and Molecular Medicine.

Provided by Sbarro Health Research