

# Alzheimer's Disease & Dementia

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Yolkin polypeptide complex isolated from hen egg yolk regulates BDNF production in PC12 cells via  
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<sup>2</sup>: U R F ã D Z 8 Q L Y H U V L W \ R I ( Q Y L U R Q P H Q W D O D Q G / L I H 6 F L H Q F H V 3 R O D Q G

**Background & Aim:** Brain-derived neurotrophic factor (BDNF) supports neurons of the central nervous system (CNS) and is a key molecule in the maintenance of synaptic plasticity and memory storage in the hippocampus. However, changes in the level of BDNF mRNA or protein have been reported both in the CNS and in the blood of Alzheimer's disease (AD) patients, which indicates its potential role in the pathogenesis of AD. Yolkin, the polypeptide complex isolated from hen egg yolk was discovered as a fraction accompanying immunoglobulin IgY, which possesses neuroprotective activity and improves cognitive function of aged rats. We also demonstrated that yolkin stimulates both PC12 neuron-like cells and human whole blood cells to release BDNF in a dose- and time-dependent manner. However, the mechanism of yolkin action is not clear. The aim of the present study was to investigate the mechanism of yolkin action which leads to increased BDNF production by PC12 cells.

**Methods & Results:**

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