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Title (English)

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Estrogen receptor mediated regulation of brain-derived neurotrophic factor and its processing in CNS

Title (Swedish)

Abstract

Brain-derived neurotrophic factor (BDNF) is an important protein in the nervous system that is synthesised as a proform and posttranslationally processed to its mature form. The mature BDNF is responsible for stimulation of neuronal growth, differentiation and cell survival. It has been found that the proform of BDNF can stimulate to the opposite biological effect from the mature form, by activating apoptotic pathways. The processing of the proform, which is thought to be mediated by estrogen, is therefore of high importance. In this study the BDNF protein pattern has been examined after stimulation with estrogen receptor agonists. A tendency to a higher expression of the mature BDNF can be seen in samples treated with an estrogen receptor β agonist. This upregulation could contribute to a higher level of cell survival, which could possibly result in an anti depressive like effect.

Keywords

Estrogen receptors, Brain-derived neurotrophic factor, depression, Western Blot, qPCR

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