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# Pharmacology

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### **Neurotrophic factors in the regulation of behavior**

Among large family of the neurotrophines involved in the growth and survival of neurons the Brain-derived neurotrophic factor (BDNF) and Glial cell line-derived neurotrophic factor (GDNF) attract particular attention due to their role in the behavioral control. This talk will summarize the data on the involvement of brain neurotrophic factors in the control of normal and pathological behavior. It will provide evidence on the implication of BDNF in epigenetically and genetically defined behavior in different animal models. Particularly, the talk will be focused on the BDNF effects on i) prenatal ethanol and stress exposure-induced behavioral disorders; ii) depressive-like behavior; iii) genetically determined aggressive behavior. It will also provide some data on the BDNF and GDNF role in the regulation of sensorimotor gating deficiency as well as GDNF involvement in the mechanisms of depression and learning. The cross-relation between neurotrophines and brain serotonergic and dopaminergic systems will be discussed.

### **Biography**

Naumenko became the head of the Department of Behavioral Neurogenomics at the Institute of Cytology and Genetics in 2014 followed by defense of doctoral (Dr. Sc.) thesis in physiology in 2012. He completed his PhD in physiology at the Institute of Cytology and Genetics in 2006 after he graduated from Novosibirsk State University as molecular biologist in 2005. He joined the Department of Behavioral Neurogenomics while he was student in 2002 and began to study the role of different types of serotonin receptors in the regulation of genetically determined defensive behavior in animal models. Now he studies the molecular mechanisms of serotonin receptor interaction and their role in the mechanisms of aggressive behavior and depression. Naumenko is also studying the cross-talk between neurotrophic factors and brain neurotransmitters in the regulation of different kinds of behavior.

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