

Abstract

Social behavior of the brown rat as an animal living in a hierarchical colonies is very diverse and developed, which remains the same with the domestic laboratory rat. Rats communicate not only via odors, but also via various types of vocalizations, which express stress, pain or anxiety or on the other hand positive emotions and also communication during any social contact. Because of complex social behaviour and communication, rat is a suitable model organism for research of human mental disorders such as autism. This thesis gives an overview of natural social behaviour of rats, behavioural methods used for testing of animal models and describes selected rat models of autism induced through various types of interference (natural mutation, gene inactivation, virus infection and chemical disruption of brain development) and compares their impact at the level of rat behaviour.

Key words

Rat, social behaviour, communication, vocalization, experimental tasks, model organism, autism, models of autism