

On The Work Of Spf Animal Facility

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The animal facility is a complex system of special quarters and equipment for keeping and breeding of laboratory animals. The SPF (specific pathogen free) status of an animal facility means that the laboratory animals are free of particular pathogens causing various infectious diseases in mice and rats. Working with SPF animals under such conditions allows us to answer the question posed in the study. What is more important, the SPF status is required for maintenance of transgenic animals, mostly mice, because they haven't a pathogenic microflora and possess minimum immunity, therefore, it is necessary to keep them in special conditions. There are only two similar complexes in Russia (at Pushchino and Novosibirsk University), thus the SPF housing room at Lobachevsky State University of Nizhny Novgorod is the third. The animal facility has been built according to strict demands of sterility, corresponding to the international standards of GLP and GMP. It has the seventh cleanliness class according to ISO. The multi-stage protection system prevents the permeation of infections. The clean zone of keeping animals is separated from the external environment by the autoclave and a special gateway.

The SPF animal facility of the UNN Institute of Biology and Biomedicine has been working since June 2015, the first mice have been accepted from the Nursery for Laboratory Animals "Pushchino". Today, there are more than 1000 animals of 7 different lines in the SPF animal facility of Lobachevsky State University. Today, the

planned capacity is 3000 animals, with potential increase up to 8000.

However, the work of the vivarium is not limited by keeping and breeding animals. The technique of embryo transfer is typically used for full breeding of SPF animals. Due to the fact that, there are the several behavioral plants in the SPF housing room such as Coulborn, the Laboras system, Panlab, it is enforceable to conduct a full cycle of all standard behavioral tests, to explore the processes of memory and learning, creation and reproduction of conditioned responses, to conduct a neurobiological, pharmacological and genetic research. Moreover, the operating room allows all necessary surgical manipulations for making different experimental models. Also the educational-practical center has been created on the base of the vivarium, conducting training, operating techniques, etc. in the barrier space.

We have already conducted a joint research work with international and Russian research centers. There is an agreement with the Nizhny Novgorod Medical Academy, Nizhny Novgorod Agricultural Academy, Minin University. What is more, the project for the study of mutagenesis has been carried out with the Institute of immunology of the clinic in Berlin, the German center for neurodegenerative disorders. Scientific researches of schizophrenia, epilepsy, Alzheimer's disease, memory at all levels (molecular, subcellular, cellular, tissue, up to behavioral characteristics) is going to be conducted on the basis of the SPF housing room at Lobachevsky State University of Nizhny Novgorod.

A Single Episode Of Seizures Induced By Pentylenetetrazole Is Followed By A Cognitive Decline

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Summary. Single episode of generalized tonic-clonic seizures induced by pentylenetetrazole led to slowly developing memory impairments in rats, accompanied by elimination of excessive newly generated young cells which were born in the hippocampus soon after the seizures and transient activation of microglial cells in this neurogenic niche.

Key words. Pentylenetetrazole, seizures, neurogenesis, neuroinflammation