

Practical training in the University of Helsinki, Leonard Khirug's group

from 01.05.12 to 30.06.12.

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During this practical laboratory training I was studying methods of genetic engineering application in the fluorescent microscopy. I have learned plasmid delivery technique to culturing neuronal and non-neuronal cells as well as to brain of living animal under anesthesia. The part of my practice was devoted to studying of fluorescent protein using for intracellular hydrogen peroxide detection. I have learned the advantages and disadvantages of fluorescent probes based on FRET (fluorescent resonance energy transfer) for research of intracellular processes.

Also I have acquainted with basis of microscopy of brain in vivo. Microscopy in vivo is the one of the modern and powerful methods for research of processes in the living animal with high resolution. Also this method allows to carry out several experiments with the same animal during a few months, i.e. to do chronic experiments. This feature is very important for biological as well as medical research. I have made "the cranial window" on the surface of rat brain and studied the principles of experiments with microscopy in vivo.

