Project 4.13. Interactions between the fusion peptide and the transmembrane domain of hemagglutinin (experimental)

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www: http://www.ifpan.edu.pl/SL-4/index.php

Background:

Hemagglutinin is one of the two major surface proteins of the influenza virus. Its transmembrane domain (TMD) anchored in the viral envelope, while the other – the so-called fusion peptide (FP) – interacts with the plasma membrane of the host cell. Membrane fusion of both fragments, taking place thanks to the protein conformational changes, is essential in the viral genetic material release during replication. The role of the FP:TMD interactions in membrane fusion is ambiguous. It is also not known whether the differences between the H1 and H3 TMD subtypes have an impact on the aforementioned interactions.

Aim:

The aim of the project is to characterize the FP:TMD interactions in the dependence of the subtype and lipid composition. Various peptide sources will be applied (synthetic and home-purified). In the research mainly optical techniques will be applied: fluorescent spectroscopy and microscopy or fluorescence cross-correlation spectroscopy (FCCS).

Requirements:

- master degree in biology, biochemistry, biophysics, biotechnology or a related discipline
- experience in basic laboratory techniques
- good command of English
- interest in scientific problems' solving

Funding:

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