Technology Offer

SynProt-A database for the proteome of synaptic junctions

Reference Number 21-00002

Challenge

Synapses represent highly specialized cell-cell contacts for communication between neurons in the central nervous system. A complex network of protein interactions at the synaptic membrane controls neurotransmitter release into the synaptic cleft. Neurotransmitter secretion is regulated by the cytomatrix of the active zone at the presynaptic side, and the signal is subsequently detected, integrated and transduced at the postsynaptic density.
Although the general mechanism of synaptic transmission was described decades ago, the fine-tuning of neurotransmitter release and the role of specific synaptic proteins is poorly understood due to the large number of molecules involved.

Screenshot of the SynProt Classic database with user interface.

Technology

Databases for synaptic proteins have been compiled to facilitate a comprehensive analysis of signal transduction across the synaptic cleft. The databases of the SynProt Portal are based on data from various studies on the synaptic proteome and contain more than 2600 non-redundant entries of rat, mouse and human proteins. Each dataset has been edited manually, and protein classifiers have been included. All entries are linked to public databases (SwissProt, PubMed). The user interface of the online database allows to search for a specific protein or for a group of proteins by focusing on properties like the molecular weight or a certain subsequence. Data updating and implementation of further information about function and localization of proteins will be part of a continuous process.

Commercial Opportunity

A license for use of the online databases can be obtained.

Development Status

The databases and user interface can be searched online after registering as a user.

Further Reading

Pielot R, Smalla KH, Müller A, Landgraf P, Lehmann AC et al. 2012. SynProt: A Database for Proteins of Detergent-Resistant Synaptic Protein Preparations. *Front Synaptic Neurosci*. 4:1. doi: 10.3389/fnsyn.2012.00001

LIN LEIBNIZ-INSTITUT FÜR NEUROBIOLOGIE MAGDEBURG

Licensing Contact:
Dr Torben Söker
Technology Manager
T: +49 511 53289-18
soeker@ascenion.de

Ascenion GmbH
Herzogstraße 64
D-80803 München
T: +49 89 318814-0
info@ascenion.de
www.ascenion.de