Resource Summary Report

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Alford Laboratory

RRID:SCR_008634
Type: Tool

Proper Citation

Alford Laboratory (RRID:SCR_008634)

Resource Information

URL: http://alford.bios.uic.edu/index.html

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Description: We are principally interested in mechanisms of short-term synaptic plasticity and the impact of that plasticity on function in the nervous system. For our research we use two model vertebrate systems. A simple vertebrate model that affords us some fundamental advantages in this research is the lamprey central nervous system. The lamprey has a central nervous system that is very simple for a vertebrate and which may be kept alive, isolated but otherwise intact, for a number of days. Additionally, a group of axons in the spinal cord are very large and contain presynaptic structures that are exceptionally accessible to the experimentalist. This combination of features enables us to investigate synaptic plasticity at great detail and to determine its role in motor control. We have focused on the means by which G protein coupled receptors mediate enhancement and inhibition of glutamate release. We have identified a direct target for Gbg on the SNARE complex, the machinery for fusion of synaptic vesicles More recently we have utilized the rat hippocampus to determine whether similar mechanisms of synaptic plasticity are present in the mammalian brain. We have begun to focus on the role of kinase activation and short-term modification of transmitter release, in addition to how these modifications can alter the formation of memory during induction phases of long-term plasticity. Available software includes that for Electrophysiological Analysis, Image Analysis, and Confocal Software.

Abbreviations: Alford Laboratory

Synonyms: The Alford Laboratory

Resource Type: organization portal, software resource, portal, laboratory portal, data or information resource

Funding:

Resource Name: Alford Laboratory

Resource ID: SCR_008634

Alternate IDs: nif-0000-32029

Record Creation Time: 20220129T080248+0000

Record Last Update: 20250418T055204+0000

Ratings and Alerts

No rating or validation information has been found for Alford Laboratory.

No alerts have been found for Alford Laboratory.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 1 mentions in open access literature.

Listed below are recent publications. The full list is available at NIF.

Photowala H, et al. (2005) Location and function of vesicle clusters, active zones and Ca2+ channels in the lamprey presynaptic terminal. The Journal of physiology, 569(Pt 1), 119.