

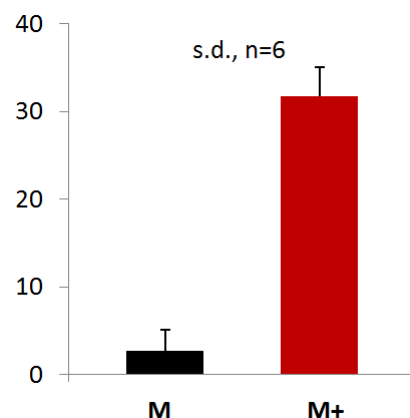
Media Supplement for Giant Synapse Culture

The Problem

Generally synapses are small limiting experiments both which can be performed on them and those experiments to short term experiments conducted on large numbers of synapses rather than individual synapses.

The Solution

The media supplement of this technology makes it possible to culture a synapse of the central nervous system, the calyx of Held developed with vivo-like morphological and physiological properties. The giant synapse is large enough to allow experiments, which would not otherwise be performed. This offers an ideal model for the identification of new signalling pathways in synapse regulation and development and the identification of novel drug targets for neurological disorders.



Assessment of synaptogenic effect of standard culture medium without (M) and with (M+) the medium supplement of this technology. Vertical scale is number of giant synapses per 35 mm dish.

Applications

- Model for identification of new neural signalling pathways
- Identification of novel neural drug targets

Benefits

- Long-term experiments, up to 30 days c.f. 1 day for brain slice culture
- Efficient in-vitro drug screening
- Access to a single synapse, the volume 2000 greater than conventional synapses

Opportunity

- Reagent manufacturers (cell culture technology): create in vivo-like environment on a plate to culture giant synapses, including those from the central nervous system, the auditory and visual system, and the neuromuscular junction.
- Contract research companies in biopharmaceutical R&D: provide accessible synapses in-vitro for the development of new treatments for neurological diseases including Parkinson's, Alzheimer's, and ADHD diseases.

Patent Status

This technology has entered the National Phase: JP2014-547209, US14/388,340, and EP12872506.6

For more information

Business Development Section/Technology Licensing Section

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