



TECH TO BUSINESS

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EEA1 Monoclonal Antibodies

TECH ID #:281.7

Background

Endocytosis is an important cellular process involved in many facets of cellular function, such as proliferative signaling, neuronal transmission, and the uptake of nutrients. This process relies on the fusion of endocytic vesicles with early endosomes. Early endosomes are responsible for sorting these events and recycling many of the plasma membrane associated receptors. The early endosomal antigen 1 (EEA1) protein, which is present on early endosomes, is involved in vesicle fusion during endocytosis. In neurons, early endosomes are involved in recycling of neurotransmitter receptors, a necessary process in neuron to neuron signaling. Clinically, autoantibodies to EEA1 it have been detected in some patients with neurological deficits. Moreover, autoantibodies to EEA1 were found to enhance excitatory synaptic transmission which may account, in part, for the neuropathies observed in patients with these autoantibodies.

Researchers at the University of Calgary have developed and tested mouse monoclonal antibodies that specifically bind to the human EEA1 protein. These antibodies can be utilized to detect the early endosomes by indirect immunofluorescence, immunohistochemistry, immunoprecipitation, and by Western blot analysis in both neuronal and non-neuronal cell types.

Areas of Application

- Immunohistochemistry of archived tissues
- Immunofluorescence
- Immunoprecipitation
- Western blot analysis

Competitive Advantages

The only monoclonal antibody tested and effective for use in multiple assays:

- immunohistochemistry of archived tissues,
- immunofluorescence,
- immunoprecipitation,
- and western blot analysis

Publications

- [J Investig Med. 1999 Jul;47\(6\):311-8](#)
- [BMC Neurosci. 2004 Jan 16;5:2](#)
- [Biochem Biophys Res Commun. 2004 Oct 29;323\(4\):1334-42](#)
- [Neuroscience. 2006 Dec 28;143\(4\):953-64](#)