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Fragment 176-191 refers to the PGP9.5 synthetic peptide which corresponds to the amino acids of peptide 175-191 PGP9.5. It may also be known under the names neuron cytoplasmic protein 9.5 or gracile axonal dystrophy.

This particular concentration is suggested to be used as an antibody or antigen binder in animals. When used with antibodies, fragment 176-191 should be pre-incubated with a peptide before it is introduced to a given tissue. The chemical has not been tested outside of this application so further dilutions or concentrations of this chemical are determined within the confines of a given study.

Functionality

The use of fragment 176-191 is largely focused on the cytoplasm and endoplasmic reticulum membrane, a majority of which associated with membranes of the brain.

In a natural setting, the chemical stimulates the ubiquitin-protein hydrolase that is involved in processing ubiquitinated proteins and ubiquitin precursors.

This enzyme will recognize the peptide bond at the glycine C-terminal of ubiquitin.

The chemical may also bind to a free monobiquitin in order to prevent degradation of lysosomes. The chemical might have ATP-independent ubiquitin ligase activity.

In a natural setting fragment 176-191 is found in the neocortex within the neuronal cell bodies of animals. It is expressed through the cells and neurons as a means of diffusing the neuroendocrine system and tumors created therein. Fragment 176-191 may weakly appear in the ovaries of such subjects.

Effects of Fragment 176-191 on Disease

In a natural setting, brains suffering from Alzheimer's or Parkinson disease have a down-regulated version of fragment 176-191 in their neuroendocrine system.

It is believed that a defect in the behavior or presence of UCHL-1 may cause type 5 Parkinson disease, known as PARK5 or Parkinson disease autosomal dominant 5.

Parkinson disease type 5 is a neurodegenerative disorder that shows symptoms similar to those of a standard strain of Parkinson disease, but may also exhibit symptoms of Lewy bodies that can cause dementia-like symptoms. Specifically, the standard symptoms of PARK5 include rigidity, resting tremor, bradykinessia, diffuse Lewy body pathology, dementia, hallucinations, autonomic dysfunction, paranoia and postural instability.

Research indicates that the effects of applying synthesized fragment 176-191 may counteract the toxicity of the protein malfunctions that contribute both to Alzheimer's and prevent the basal HGH frag 176-191 lesions that contribute to Parkinson disease. The degeneration in the latter is largely determined by nigrostraiatal dopamine system changes as well as alterations of the SP neurotransmitter system.

The SP neurotransmitter system functions in the striato-nigral projection where the axon terminals can form direct synapses with cell bodies of the dentrite form of DAergic nigrostriatal neurons.

The effects of synthesized versions of fragment 176-191 are still being tested. Results of the application of this chemical have not been confirmed outside of a laboratory setting.

Sources

http://www.abcam.com/PGP9-5-peptide-175-191-ab38203.html?productWallTab=Questions