Data Sheet (Cat.No.TMPY-02106)

TargetMol

GAP43 Protein, Human, Recombinant (His)

General Information

Synonyms:	B-50;PP46;growth associated protein 43
Protein Construction:	A DNA sequence encoding the human GAP43 (P17677) (Met 1-Ala 238) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P17677
Molecular Weight:	26.2 kDa (predicted); 47 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 96 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Neuromodulin, also known as Axonal membrane protein GAP-43, Growth-associated protein 43, Neural phosphoprotein B-5, pp46 and GAP43, is a cell membrane protein which belongs to theneuromodulin family. Neuromodulin / GAP43 contains oneIQ domain. Neuromodulin / GAP43 is associated with nerve growth. It is a major component of the motile "growth cones" that form the tips of elongating axons. Neuromodulin / GAP43 is involved in neurite outgrowth, a crucial process for the differentiation of neurons. The sudden infant death

syndrome (SIDS) is the main cause of postneonatal infant death and its cause is still unknown. Neuromodulin / GAP43 is a marker of synaptic plasticity and is critical for normal development of the serotonergic innervation. Neuromodulin / GAP43 is a major cortical cytoskeleton-associated and calmodulin binding protein that is widely and abundantly expressed during development, maintained in selected brain structures in the adult, and reinduced during nerve regeneration. CAP23 and GAP43 are functionally related intrinsic determinants of anatomical plasticity. These proteins function by locally promoting subplasmalemmal actin cytoskeleton accumulation.

Reference

Frey,D. et al., 2000, J Cell Biol. 149 (7):1443-54.
Caprini,M. et al., 2003, EMBO J. 22 (12):3004-14.
Sawaguchi,T. et al., 2003, Early Hum Dev. 75 Suppl :S139-46.
Kowara,R. et al., 2007, Biochem Biophys Res Commun 363 (1):190-3.