Data Sheet (Cat.No.TMPY-04754)

TargetMol

CASK Protein, Human, Recombinant

General Information

Synonyms:	CMG;LIN2;MRXSNA;CAMGUK;calcium/calmodulin-dependent serine protein kinase (MAGUK family);TNRC8;CAGH39;hCASK;MICPCH;FGS4
Protein Construction:	A DNA sequence encoding the human CASK (O14936-4) (Ala 2-Tyr 898) was expressed and purified with two additional amino acids (Gly & Pro) at the N-terminus. Predicted N terminal: Gly
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	O14936-4
Molecular Weight:	102.1 kDa (predicted); 102 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Kinase activity untested
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 7.4.

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 the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Peripheral plasma membrane protein CASK, also known as calcium/calmodulin-dependent serine protein kinase, CASK and LIN2, is a nucleus, cytoplasm and cell membrane protein which belongs to theMAGUK family. CASK / LIN2 contains oneguanylate kinase-like domain, twoL27 domains, onePDZ (DHR) domain, oneprotein kinase domain and oneSH3 domain. CASK / LIN2 is ubiquitously expressed. Expression of CASK / LIN2 is significantly greater in brain relative to kidney, lung, and liver and in fetal brain and kidney relative to lung and liver. CASK / LIN2 is a multidomain scaffolding protein with a role in synaptic transmembrane protein anchoring and ion channel trafficking. CASK / LIN2 contributes to neural development and regulation of gene expression via

interaction with the transcription factor TRB1. It binds to cell-surface proteins, including amyloid precursor protein, neurexins and syndecans. CASK / LIN2 may mediate a link between the extracellular matrix and the actin cytoskeleton via its interaction with syndecan and with the actin/spectrin-binding protein 4.1. Defects in CASK are the cause of mental retardation X-linked CASK-related (MRXCASK). Mental retardation is characterized by significantly below average general intellectual functioning associated with impairments in adaptative behavior and manifested during the developmental period. Defects in CASK are also the cause of FG syndrome type 4 which is an X-linked disorder characterized by mental retardation, relative macrocephaly, hypotonia and constipation.

Reference

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Najm J., et al., 2008, Nat. Genet. 40:1065-1067.
Piluso G., et al., 2009, Am. J. Hum. Genet. 84:162-177.
Tarpey P.S., et al., 2009, Nat. Genet. 41:535-543.