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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CLSTN1 Protein
Catalog Number: hRP-1130
Manufacturer: LD Biopharma, Inc.

Introduction

Calsyntenin-1 (CLSTN1) is a neuronally enriched type-1 membrane-spanning protein that binds directly to kinesin-1 light chains via its intracellular C-terminal domain. As such, calsyntenin-1 acts as a ligand to mediate transport of a subset of vesicles through axons on kinesin-1 motors. Recent data indicated that CLSTN1 plays a role in regulating amyloid- β (A β) production in neuronal cells.

Full-length extracellular domain of human CLSTN1 cDNA (29 - 859aa, Isoform_II, derived from BC033902) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: CLSTN1 (ALC-ALPHA; alcalphal; alcalpha; CDHR12)
Accession Number: NP_055759
Species: Human
Size: 50 μ g / Vial
Composition: 1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Vagnoni,A., et al., *Calsyntenin-1 mediates axonal transport of the amyloid precursor protein and regulates Abeta production*. Hum. Mol. Genet. 21 (13), 2845-2854 (2012)

Vagnoni,A., et al., *Phosphorylation of kinesin light chain 1 at serine 460 modulates*



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binding and trafficking of calsynenin-1. J. Cell. Sci. 124 (PT 7), 1032-1042 (2011)

Konecna, A., et al., *Calsynenin-1 docks vesicular cargo to kinesin-1. Mol. Biol. Cell 17 (8), 3651-3663 (2006)*

Applications

1. May be used for in vitro CLSTN1 mediated neuronal axonal transporting regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as CLSTN1 protein-protein interaction assay.
3. As enzymatic substrate for various proteases.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFARVNHKHPWLEPTYHGIVTENDNTVLLDPPLIALD
KDAPLRFASFVETVTKEGEICGFKIHGQNVFPDAVVVDKSTGEGVIRSKEKLDCELQKDYSFT
IQAYDCGKGPDTNVKSHKATVHIQVNDVNEYAPVFKEKSYKATVIEGKQYDSILRVEAVDAD
CSPQFSQICSYEIITPDVPFTVDKDG YIKNTEKLN YGKEHQYKLTVTAYDCGKKRATEDVLVKI
SIKPTCTPGWQGWNNRIEYEPGTGALAVFPNIHLET CDEPVASVQATVELETSHIGKGC DRD TY
SEKSLHRLCGAAAGTAE LLPSPSGSLNWTMGLPTDNGHDS DQVFEFNGTQAVRIPDGVVSVSPK
EPFTISVWMRHGPFGRKKETILCSSDKTDMNRHHYSLYVHGCR LI FLFRQDPSEEKKYRPAEFH
WKLNQVCDEEWHHYVLNVEFPSVTLYVDGTSHEPFSVTEDYPLHPSKIETQLVVGACWQEFSGV
ENDNETEPVTVASAGDLHMTQFFRGNLAGLTLRSGLADKKVIDCLYTCKEGLDLQVLEDSGR
GVQIQAHPSQLVLTLEGEDLGELDKAMQHISYLN SRQFPTPGIRRLKITSTIKCFNEATCISVP
PVDGYVMVLQPEPKISLSGVHHFARAASEFESSEGVFLFPELRIISTITREVEPEGDGAEDPT
VQESLVSEEIVHDLDTCEVTVEGEELNHEQESLEVDMARLQKGI EVSSSELGMTFTGVDTMAS
YEEVLHLLRYRNWHARSLLDRKFKLICSELNGRYISNEFKVEV NVIHTANPMEHANHMAAQPQF
VHPEHRSFVDLSGHNLANPHPFVAVPST