LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CLSTN3 Protein
Catalog Number: hRP-1115
Manufacturer: LD Biopharma, Inc.

Introduction

Calsyntenins (CLSTN) also known as alcadeins, are type I transmembrane proteins that belong to the cadherin superfamily. Their names come from their ability to bind calcium. CLSTN family consists of three members (CLSTN 1, 2 and 3), CLSTN1 was first shown to be predominantly expressed in postsynaptic membranes of excitatory neurons, CLSTN 2 and 3 were found in an increased manner in inhibitory GABAergic neurons. Calsyntenins interact with numerous proteins such as with kinesin-1 and the APP-linker protein X11L/Mint2, and were shown to have multi-purpose functions both within and outside the nervous system. Shortly after the calsyntenins were discovered, they were found to regulate postsynaptic calcium concentration. Later it was found that another key-function is to link vesicles to kinesin light chain (KLC) and thus to co-determine transport of distinct cargo.

Full-length extracellular domain of human CLSTN3 cDNA (20-847aa, derived from BC111491) 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:	CLSTN3 (alcbeta; CDHR14; CSTN3)
Accession Number:	NP_055533
Species:	Human
Size:	50 µg / Vial
Composition:	0.5 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

Araki,Y., et al., *Coordinated metabolism of Alcadein and amyloid beta-protein precursor*

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regulates FE65-dependent gene transactivation. J. Biol. Chem. 279 (23), 24343-24354 (2004)

Araki,Y., et al., *Novel cadherin-related membrane proteins, Alcadeins, enhance the X11-like protein-mediated stabilization of amyloid beta-protein precursor metabolism*. J. Biol. Chem. 278 (49), 49448-49458 (2003)

Applications

1. May be used for in vitro CLSTN3 mediated neuronal cell differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as CLSTN3 protein-protein interaction assay.
3. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHGNLYFQGGEFNKANKHKPWIEAEYQGIVMENDNTVLLNPPLFALD
KDAPLRYAGEICGFRLHGSGVPFEAVILDKATGEGLIRAKEPVDCEAQKEHTFTIQAYDCGEGP
DGANTKKSHKATVHVRVNDVNEFAPVFVERLYRAAVTEGKLYDRILRVEAIDGDCSPQYSQICY
YEILTPNTPFLIDNDGNIENTEKLQYSGERLYKFTVTAYDCGKKRAADDAEVEIQVKPTCKPSW
QGWNKRIEYAPGAGSLALFPGIRLETCDEPLWNIQATIELQTSHVAKGCDRDNYSERALRKLCG
AATGEVDLLPMPGPNANWTAGLSVHYSQDSSLIYWFNGTQAVQVPLGGPSGLGSGPQDSLSDHF
TLSFWMKHGVTPNKGKKEEETIVCNTVQNEDGFSHYSLTVHGCRIAFLYWPLLESARPVKFLWK
LEQVCDDEWHHYALNLEFPTVTLYTDGISFDPALIHDNGLIHPPRREPALMIGACWTEEKNKEK
EKGDNSTDTTQGDPLSIHHYFHGYLAGFSVRSGRLESREVIECLYACREGLDYRDFESLGKGMK
VHVNPSQSLLTLEGDDVETFNHALQHVAYMNTLRFATPGVRPLRLTTAVKCFSEESCVSIPEVE
GYVVVLQPDAPQILLSGTAHFARPAVDFEGTNGVPLFPDLQITCSISHQVEAKKDESWQGTVTD
TRMSDEIVHNLDGCEISLVGDDLDPERESLLLDTTSLQQRGLELTNTSAYLTIAGVESITVYEE
ILRQARYRLRHGAALYTRKFRLSCSEMNGRYSSNEFIVEVNVLHSMNRVAHPSHVLSSQQFLHR
GHQPPPEMAGHSLASSHRNSMIPSA