LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human **CD171** Protein
Catalog Number: **HRP-3005**
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Neural Cell Adhesion Molecule L1 (L1CAM, also names as CD171) gene encodes a protein, which is involved in the dynamics of cell adhesion and in the generation of trans-membrane signals at tyrosine kinase receptors. During brain development, CD171 plays a critical role in multiple processes, including neuronal migration, axonal growth and fasciculation, and synaptogenesis. In the mature brain, CD171 controls the dynamics of neuronal structure and function, including synaptic plasticity. As an abundant cell surface molecule on neuroblastomas, targeting CD171 using CAR-T technology for childhood neuroblastoma is under clinical trial now.

Full-length extracellular domain of human CD171 cDNA (20 – 1120aa, Isoform-I, derived from BC126229) was constructed with codon optimization technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal 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:	CD171 (L1CAM; N-CAM-L1; MIC5)
Accession Number:	NP_000416
Species:	Human
Size:	30 μg / Vial
Composition:	0.3 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT and others.
Storage:	In liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.

Key References

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Kunkele A, et al., ***Preclinical assessment of CD171-directed CAR-T cell adoptive therapy for childhood neuroblastma: CE7 epitope target safety and product manufactureing feasibility.*** Clin Cancer Res. Jan 15:23(2): 466-477(2017)

Pace KR, et al., ***Exosomal L1CAM Stimulates Glioblastoma Cell Motility, Proliferation, and Invasiveness.*** Int J Mol Sci 20 (16), E3982 (2019)

Rosenthal A, et al., ***Aberrant splicing of neural cell adhesion molecule L1 mRNA in a family with X-linked hydrocephalus.*** Nat. Genet. 2 (2), 107-112 (1992)

Applications

- May be used for studying of human CD171 mediated signal pathway for neuronal cell differentiation regulation in vitro using recombinant CD171 protein for either coating as matrix protein or soluble factor.
- May be used for CD171 protein-protein interaction assay, such as CD171 – SHTN1 interaction mapping.
- High purified native human CD171 antigen, which may be used for its specific antibody production.

Quality Control:

1. Purity: > 92% by SDS-PAGE.

Recombinant Human CD171 Protein Sequence (126.4 kD)

MASMTGGQQMGRGHHHHHHGNLYFQGGEFIQIPEEYEGHHVMEPPVITEQSPRRLVVFPTDDISLKCEAS
GKPEVQFRWTRDGVHFKPKEELGVTVYQSPHSGSFTITGNNSNFAQRFQGIYRCFASNKLGTAMSHEIRL
MAEGAPKWPKETVKPVEVEEGESVVLPCNPPPSAEPLRIYWMNSKILHIKQDERVTMGQNGNLYFANVLT
SDNHSDYICHAHFPGTRTIIQKEPIDLRVKATNSMIDRKPRLLFPTNSSSHLVALQGQPLVLECIAEGFP
TPTIKWLRPSGPMPADRVTYQNHNKTLQLLKVGEEDDGEYRCLAENSLGSARHAYYVTVEAAPYWLHKPQ
SHLYGPGETARLDCQVQGRPQPEVTWRINGIPVEELAKDQKYRIQRGALILSNVQPSDTMVTQCEARNRH
GLLLANAYIYVVQLPAKILTADNQTYMAVQGSTAYLLCKAFGAPVPSVQWLDEDGTTVLQDERFFPYANG
TLGIRDLQANDTGRYFCLAANDQNNVTIMANLKVKDATQITQGPRSTIEKKGSRVTFTCQASFDPSLQPS
ITWRGDGRDLQELGDSDKYFIEDGRLVIHSLDYSDQGNYSCVASTELDVVESRAQLLVVGSPGPVPRLVL

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SDLHLLTQSQVRVSWSPAEDHNAPIEKYDIEFEDKEMAPEKWYSLGKVPGNQTSTTLKLSPYVHYTFRVT
AINKYGPGEPSPVSETVVTPEAAPEKNPVDVKGEGNETTNMVITWKPLRWMDWNAPQVQYRVQWRPQGTR
GPWQEQIVSDPFLVVSNTSTFVPYEIKVQAVNSQGKGPEPQVTIGYSGEDYPQAIPELEGIEILNSSAVL
VKWRPVDLAQVKGHLRGYNVTYWREGSQRKHSKRHIHKDHVVVPANTTSVILSGLRPYSSYHLEVQAFNG
RGSGPASEFTFSTPEGVPGHPEALHLECQSNTSLLLRWQPPLSHNGVLTGYVLSYHPLDEGGKGQLSFNL
RDPELRTHNLTDLSPHLRYRFQLQATTKEGPGEAIVREGGTMALSGISDFGNISATAGENYSVVSWVPKE
GQCNFRFHILFKALGEEKGGASLSPQYVSYNQSSYTQWDLQPDTDYEIHLFKERMFRHQMAVKTNGTGRV
RLPPAGFATE