



LD Biopharma, Inc.
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human **CD13** Protein
Catalog Number: HRP-3271
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Aminopeptidase N (ANPEP, also named as CD13) gene encodes a protein, which has broad specificity aminopeptidase. It plays a role in the final digestion of peptides generated from hydrolysis of proteins by gastric and pancreatic proteases. CD13 is also involved in the processing of various peptides including peptide hormones, such as angiotensin III and IV, neuropeptides, and chemokines. CD13 may also be involved the cleavage of peptides bound to major histocompatibility complex class II molecules of antigen presenting cells. It may have a role in angiogenesis and promote cholesterol crystallization. Recent data indicated that CD13 acts as the receptor through which some enteric pathogens make their entry. And antibodies against CD13 receptor are known for their internalization across the mucosal surface through this receptor as potential mucosal vaccines development strategy.

Full-length extracellular domain of human CD13 cDNA (33 – 967aa) was constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) 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: CD13 (ANPEP; APN; PEPN)
Accession Number: NP_001141.2
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, 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.



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Key References

Lisowska-Myjak B, et al., *Can aminopeptidase N determined in the meconium be a candidate for biomarker of fetal intrauterine environment?* Exp Mol Pathol 115, 104446 (2020)

Liu Z, et al., *ACO2 and ANPEP as novel prognostic markers for gallbladder squamous cell/adenosquamous carcinomas and adenocarcinomas.* Int J Clin Oncol 25 (7), 1346-1355 (2020)

Qi F, et al., *Single cell RNA sequencing of 13 human tissues identify cell types and receptors of human coronaviruses.* Biochem Biophys Res Commun 526 (1), 135-140 (2020)

Li Z, et al., *The human coronavirus HCoV-229E S-protein structure and receptor binding.* Elife 8, e51230 (2019)

Applications

1. May be used for in vitro CD13 mediated endocytosis pathway regulation study in vitro for various cells with this recombinant CD13 protein either as soluble factor or as coating matrix protein.
2. May be used for CD13 protein-protein interaction assay.
3. Potential Therapeutic / diagnostic protein, which may be used as cancer diagnosis or mucosal entry based vaccine development (such as CD13 binder mediated endocytosis).
4. As native human CD13 antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Human **AFPn**- CD13 Fusion Protein Sequence (131.4 kD)

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQSSGCL
NQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVTSC
EAYEEDRETFMKNFYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVTKELRE
SSGGSHHHHHGSENLYFQGGEFELYSQEKKNANSSPVASTTPSASATTNPASATTLTLDQSKAWNRYRLPNTLKPDSYRVTLR
PYLTPNDRGLYVFKGSSTVRFTCKEATDVIIHSHKLNITLSQGHRVVLRGVGGSQPPDIDKTELVEPTE



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YLVVHLKGS�VKDSQYEMDSEFEGELADDLAGFYRSEYMEGNVRKVVATTQMQAADARKSFPCFDEPAMK
AEFNITLIHPKDLTALS NMLPKGPSTPLPEDPNWNVTEFH TTPKMSTYLLAFIVSEFDYVEKQASNGVLI
RIWARPSAIAAGHG DYALNVTGPILNFFAGHYDTPYPLPKSDQIGLPDFNAGAMENWGLV TYRENSLLFD
PLSSSSSNKERVVTVIAHELAHQWFGNLV TIEWWDLWLNEGFAS YVEYLGADYAEPTWNLKDLMLVNDV
YRVMAVDALASSHPLSTPASEINTPAQISELFD AISYKSGASVLRMLSSFLSE DVFKQGLASYLHTFAYQ
NTIYLNLDHLQEAVNNRSIQLPTTVR DIMNRWTLQMGFPVITVDTSTGTLSQEHFL LDPDSNVTRPSEF
NYVWIVPITSIRDGRQQQDYWLIDVRAQNDLFSTSGNEWVLLN LNVTGYR VNYDEENWRKIQTQLQRDH
SAIPVINRAQIINDAFNLASAHKVPVTLALNNTLFLIEERQYMPWEAALSSLSYFKLMFDRSEVY GPMKN
YLKKQVTPLFIFHRNNTNNWREI PENLMDQYSEVNAI STACSNVPECEEMVSGLFKQWMENPNNNPIHP
NLRSTVYCN AIAQGGEEWDFAWEQFRNATLVNEADKLRAALACSKELWILNRYLSYTLNPD LIRKQDAT
STIISITNNVIGQLVWDFVQSNWKKLFNDYGGGSFSFSNLIQAVTRRFSTEYELQQLEQFKKDNEETGF
GSGTRALEQALEKTKANIKWVKENKEVVLQWFTENSK