

Neprilysin/CD10 Protein, Human, Recombinant (His)

General Information

Synonyms:	membrane metallo-endopeptidase;SFE;CALLA;NEP;CD10
Protein Construction:	A DNA sequence encoding the extracellular domain (Tyr 52-Trp 750) of human CD10 (NP_000893.2) was fused with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P08473
Molecular Weight:	82.2 kDa (predicted); 95-105 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by its ability to cleave the fluorogenic peptide substrate, Mca-RPPGFSAFK (Dnp)-OH. The specific activity is >1,500 pmoles/min/μg.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM MES, 100 mM NaCl, 1 mM ZnCl ₂ , 10% glycerol, pH 6.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

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 recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The cluster of differentiation (CD) system is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alters the behavior of the cell. Some CD proteins do not take part in the cell signal process but have other functions

such as cell adhesion. The cluster of differentiation 10 (CD10), also known as Neprilysin and neutral endopeptidase, is a member of the CD system. CD10 is a zinc-dependent metalloprotease enzyme that had the function to degrade some small secreted peptides such as the amyloid beta-peptide. It exists as a membrane-bound protein and has a high concentration in kidney and lung tissues. Mutations in the CD10 gene can induce the familial forms of Alzheimer's disease, providing strong evidence for the protein's association with the Alzheimer's disease process. CD10 is also associated with other biochemical processes.

Reference

- Zola H, et al. (2007) CD molecules 2006-human cell differentiation molecules. *J Immunol Methods*. 318 (1-2): 1-5.
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- Matesanz-Isabel J, et al. (2011) New B-cell CD molecules. *Immunology Letters*. 134 (2): 104-12
- Dogan, et al. (2000) CD10 and BCL-6 Expression in Paraffin Sections of Normal Lymphoid Tissue and B-Cell Lymphomas. *American Journal of Surgical Pathology*. 24(6): 846-52.

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