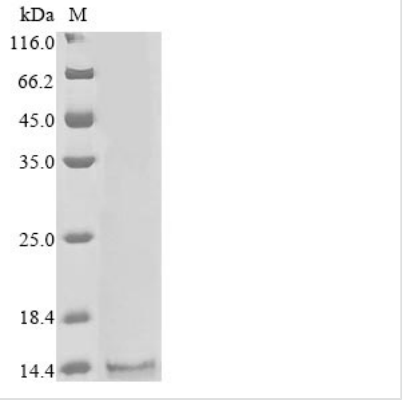
Recombinant Human Carboxypeptidase D (CPD), partial

Product Code	CSB-BP005885HU1
Abbreviation	Recombinant Human CPD protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	O75976
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	GVKGFVKDSITGSGLENATISVAGINHNITTGRFGDFYRLLVPGTYNLTVVLTGY MPLTVTNVVVKEGPATEVDFSLRP
Research Area	Signal Transduction
Source	Baculovirus
Target Names	CPD
Expression Region	383-461aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	12.3 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human Carboxypeptidase D (CPD) is produced using a baculovirus expression system and spans the amino acid region 383-461. The protein includes an N-terminal 10xHis-tag and a C-terminal Myc-tag, which help with purification and detection. This recombinant protein shows a purity of over 85% as determined by SDS-PAGE, suggesting reliable performance in experimental applications.

Carboxypeptidase D is a metallocarboxypeptidase involved in protein processing and peptide hormone maturation. It appears to play a role in removing C-terminal arginine or lysine residues from peptides, which is crucial in various biological pathways. Understanding CPD's function and regulation may be essential for research in cellular processes and enzymatic activity.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Protein-Protein Interaction Studies

This dual-tagged CPD fragment (383-461aa) could serve as a useful tool for investigating protein-protein interactions involving the C-terminal region of carboxypeptidase D. The N-terminal His-tag allows purification and immobilization for pull-down assays. Meanwhile, the C-terminal Myc-tag helps with detection and validation of binding partners. Researchers might use this construct to identify novel interacting proteins or validate known interactions within this specific domain region. The fragment's defined boundaries make it particularly useful for mapping precise interaction sites within the CPD C-terminus.

2. Antibody Development and Validation

The dual-tagged nature of this CPD fragment appears to make it an excellent immunogen and validation tool for antibody development targeting the 383-461aa region of human carboxypeptidase D. The His-tag allows for

straightforward purification to obtain high-quality antigen for immunization protocols. The Myc-tag can then be used in validation assays such as Western blotting or ELISA to confirm antibody specificity and cross-reactivity. This approach may enable the development of region-specific antibodies that recognize this particular C-terminal domain of CPD.

3. Structural and Biochemical Characterization

This recombinant CPD fragment can be used in structural biology studies to investigate the folding and biochemical properties of the 383-461aa region. The high purity (>85%) and dual-tag system help with purification protocols suitable for biophysical analyses such as circular dichroism spectroscopy, dynamic light scattering, or NMR studies. Researchers can examine the structural characteristics of this specific domain in isolation. This could provide insights into its contribution to overall CPD structure. The defined fragment boundaries allow for focused analysis of this C-terminal region's stability and conformational properties.

4. Tag-Based Detection and Quantification Assays

The dual-tag configuration may enable the development of sandwich-type detection assays for research applications. Anti-His and anti-Myc antibodies can be used to establish sensitive detection systems for monitoring protein expression, localization, or degradation in cell-based studies. This approach appears particularly valuable for tracking the fate of this CPD domain in transfection experiments or protein trafficking studies. The combination of both tags provides redundancy and increased specificity for detection protocols.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.