

# Human CNDP1 Protein (His Tag)

Catalog Number: 10077-H08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CN1; CPGL2; HsT2308

### Protein Construction:

A DNA sequence encoding the mature form of human CNDP1 (NP\_116038.4) (Ser27-His507) was fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE.

### Bio Activity:

**Measured by its ability to cleave carnosine ( $\beta$ -Ala-L-His) in a two-step assay. The specific activity is > 250 pmoles/min/ $\mu$ g.**

### Endotoxin:

< 1.0 EU per  $\mu$ g of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Ser 27

### Molecular Mass:

The recombinant human CNDP1 consists of 492 amino acids and has a calculated molecular mass of 55.3 kDa. As a result of glycosylation, the protein migrates as an approximately 60-65 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

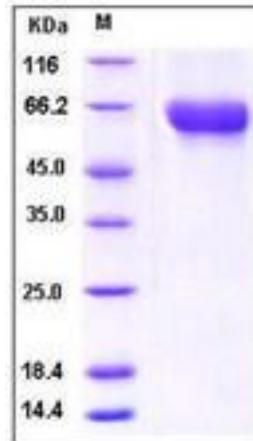
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

### Avoid repeated freeze-thaw cycles.

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

CNDP1, also known as carnosine dipeptidase 1, glutamate carboxypeptidase-like protein 2 (CPGL-2) or carnosinase 1 (CN1), is a member of the M20 metalloprotease family. The CNDP1 gene contains trinucleotide (CTG) repeat length polymorphism in the coding region, which has been demonstrated to be associated with susceptibility to developing diabetic nephropathy, for carnosine protection against the adverse effects of high glucose levels on renal cells. In humans, CNDP1 is secreted from the liver into the serum. In other mammals, including rodents, CNDP1 is expressed exclusively within the kidney and lacks a signal peptide. CNDP1 protein is a secreted homodimeric dipeptidase that specifically hydrolyzes L-carnosine ( $\beta$ -alanyl-L-histidine), and is identified as human carnosinase expressed in the brain. CNDP1 has been associated with diabetic nephropathy in Europeans and European Americans, but not African-Americans. It was identified and confirmed as a risk factor, were cross-sectional and mostly in patients with type 2 diabetes. The polymorphisms of CNDP1 can be excluded as a risk factor for nephropathy in type 1 diabetes. In addition, CNDP1 is also suggested to be implicated in the actions of neuroprotection and neurotransmitting.

## References

- 1.Teufel M, et al. (2003) Sequence identification and characterization of human carnosinase and a closely related non-specific dipeptidase. *J Biol Chem* 278(8):6521-31.
- 2.Janssen B, et al. (2005) Carnosine as a protective factor in diabetic nephropathy: association with a leucine repeat of the carnosinase gene CNDP1. *Diabetes* 54(8):2320-7.
- 3.Riedl E, et al. (2007) A CTG polymorphism in the CNDP1 gene determines the secretion of serum carnosinase in Cos-7 transfected cells. *Diabetes* 56(9):2410-3.

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