# Human Prealbumin / Transthyretin / TTR / PALB Protein (His Tag)

**Catalog Number:** 12091-H08H

Sino Biological
Biological Solution Specialist

## General Information

**Gene Name Synonym:**

CTS; CTS1; HEL111; HsT2651; PALB; TBPA

**Protein Construction:**

A DNA sequence encoding the human TTR (NP_000362.1) (Met 1-Glu 147) with a C-terminal polyhistidine tag was expressed.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

**Bio Activity:**

**Measured by its binding ability in a functional ELISA.**
**Immobilized recombinant human TTR-His (Cat:12091-H08H) at 10 μg/ml (100 μl/well) can bind recombinant Canine RBP4-Fc (Cat:70006-D02H) with a linear range of 0.3-10.0 μg/ml.**

**Endotoxin:**

< 1.0 EU per μg of the protein as determined by the LAL method

**Stability:**

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

**Predicted N terminal:** Gly 21

**Molecular Mass:**

The secreted recombinant human TTR comprises 138 amino acids with a predicted molecular mass of 15.2 kDa.

**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:**

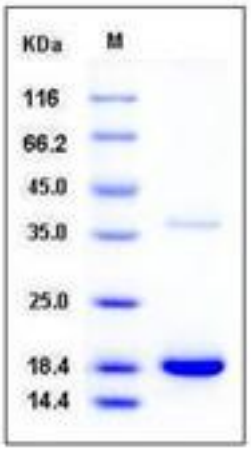
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

**Reconstitution:**

Detailed reconstitution instructions are sent along with the products.

**SDS-PAGE:**




## Protein Description

Prealbumin/Transthyretin, also known as ATTR, Prealbumin, TTR and PALB, is a secreted and cytoplasm protein which belongs to the Prealbumin / Transthyretin family. Prealbumin / Transthyretin is detected in serum and cerebrospinal fluid (at protein level). It is highly expressed in choroid plexus epithelial cells. It is also detected in retina pigment epithelium and liver. Each monomer of Prealbumin / Transthyretin has two 4-stranded beta sheets and the shape of a prolate ellipsoid. Antiparallel beta-sheet interactions link monomers into dimers. A short loop from each monomer forms the main dimer-dimer interaction. These two pairs of loops separate the opposed, convex beta-sheets of the dimers to form an internal channel. Prealbumin/Transthyretin is a carrier protein. It transports thyroid hormones in the plasma and cerebrospinal fluid, and also transports retinol (vitamin A) in the plasma. Defects in Prealbumin / Transthyretin are the cause of amyloidosis type 1 (AMYL1) which is a hereditary generalized amyloidosis due to Prealbumin / Transthyretin amyloid deposition. Protein fibrils can form in different tissues leading to amyloid polyneuropathies, amyloidotic cardiomyopathy, carpal tunnel syndrome, systemic senile amyloidosis. The diseases caused by mutations include amyloidotic polyneuropathy, euthyroid hyperthyroxinaemia, amyloidotic vitreous opacities, cardiomyopathy, oculoleptomeningeal amyloidosis, meningocerebrovascular amyloidosis, carpal tunnel syndrome, etc.

**References**

1.Westermark P, et al. (1990) Fibril in senile systemic amyloidosis is derived from normal transthyretin. Proc Natl Acad Sci U S A. 87(7): 2843-5.
2.Colon W, et al. (1992) Partial denaturation of transthyretin is sufficient for amyloid fibril formation in vitro. Biochemistry. 31(36): 8654-60.
3.Hammarstrm P, et al. (2003) Prevention of transthyretin amyloid disease by changing protein misfolding energetics. Science. 299(5607): 713-6.