

Product Specification Sheet

Human Prealbumin (Transthyretin) Protein and Antibodies

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|-----------------|---|---------------------|
| Cat # PALB11 -A | Goat Anti-Human prealbumin IgG, aff pure | SIZE: 100 ul |
| Cat # PALB11 -C | Human prealbumin protein control for Western blot | SIZE: 100 ul |
| Cat # PALB15 -N | Purified human prealbumin protein | SIZE: 1 mg |

Transthyretin (TTR) is a serum and cerebrospinal fluid carrier of the thyroid hormone thyroxine (T4) and retinol binding protein bound to retinol. This is how transthyretin gained its name, transports thyroxine and retinol. The liver secretes transthyretin into the blood, and the choroid plexus secretes TTR into the cerebrospinal fluid. TTR was originally called prealbumin[1] because it ran faster than albumin on electrophoresis gels. It functions in concert with two other thyroid hormone-binding proteins (Albumin and TBG) in the serum. In cerebrospinal fluid TTR is the primary carrier of T4, as albumin is not present. TTR also acts as a carrier of retinol (vitamin A) through its association with retinol-binding protein (RBP) in the blood and the CSF. Less than 1% of TTR's T4 binding sites are occupied in blood, which is taken advantage of below to prevent TTRs dissociation, misfolding and aggregation which leads to the degeneration of post-mitotic tissue.

TTR is a 55-kDa homotetramer with a dimer of dimers configuration that is synthesized in the liver, choroid plexus and retinal pigment epithelium for secretion into the eye. Each monomer is a 127-residue polypeptide rich in beta sheet structure. Association of two monomers forms an extended beta sandwich. Further association of two of these dimers produces the homotetrameric structure and creates the two thyroxine binding sites per tetramer. This dimer-dimer interface comprising the two T4 binding sites is the weaker dimer-dimer interface and is the one that comes apart first in the process of tetramer dissociation. TTR is known to be associated with the amyloid diseases[9] senile systemic amyloidosis (SSA),[10] familial amyloid polyneuropathy (FAP),[11][12] and familial amyloid cardiomyopathy (FAC). It is found in serum/plasma at ~0.30 mg/ml. Functions in the transport of thyroxine, vitamin A, and retinol-binding protein. Clinically, prealbumin is a sensitive indicator of impaired liver function; low levels are found in viral hepatitis, cirrhosis, malnutrition, inflammation, and surgical trauma.

Source of Antigen, Antibodies

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|---------------------|---|
| Antigen | Pure human prealbumin |
| Ab Host/type | Goat, polyclonal IgG (cat # PAB11-A), purified over affinity column |
| 2-Ab | Rabbit Anti-goat IgG-HRP conjugate Cat # 30220 (AP, biotin, FITC conjugates also available) |
| -ve control | # 20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control |

#PALB15-N, Purified Human Prealbumin

Prealbumin was purified from human plasma using proprietary techniques (>95% pure; ~55 Kda). It is supplied in Na phosphate, pH 7.5, with 150 mM NaCl buffer or lyophilized in the same buffer (or see lot sp. conc on the vial). Reconstitue powder in PBS, pH 7.4 or in other buffers. Store powder at -20oC and make aliquots of the stock solution and store frozen at -20oC. Avoid repeated freeze and thaw.

All human derived material has been tested negative for HIV, HCV, and HbSAG. Nevertheless, all precautions should be taken and samples be treated as potentially hazardous.

#PALB11-C, Human prealbumin control for Western blot

Purified Human prealbumin (~55 Kda on SDS-PAGE) for Western blot +ve control (**Cat # PALB11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of PALB11-C for good visibility with antibody Cat # PALB11-A. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the PALB11-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in Buffer: PBS+

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder.

Recommended Usage

ELISA: Dilution 1:1,000 is recommended.

Suitable for Western Blot.

Specificity & Cross-reactivity

Anti-human prealbumin antibody reacts with human. Purified human protein is available (#PALB11-C) for use as positive western control.

General References: Milta S (1984) BBRC 124, 558-564; Sasaki H (1985) Gene 37, 191-197; Maeda S 91986) Mol. Biol. Med. 3, 329-338; .

*This product is for In vitro research use only.

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