

TBG Protein, Human, Recombinant (His) V2

General Information

Synonyms:	TBG;Serpine A7;serpin peptidase inhibitor, clade A (alpha-1 antitrypsin, antitrypsin), member 7;serpin peptidase inhibitor, clade A (α -1 antitrypsin, antitrypsin), member 7;Thyroxine Binding Globulin
Protein Construction:	Ala21-Ala415
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P05543
Molecular Weight:	49.9 kDa (Predicted); 55-65 kDa (Reducing conditions)

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 μ m filtered solution of PBS, pH 7.4.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

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

Serpine A7 is a secreted protein which belongs to the Serpine family. As a 54 kDa protein, Serpine A7 is synthesized primarily in the liver and secreted in plasma. Genomically, Serpine A7 is a serpine, although it has no inhibitory function like many other members of this class of proteins. Serpine A7 binds thyroid hormone in circulation. It is one of three proteins (along with transthyretin and albumin) responsible for carrying the thyroid hormones thyroxine (T4) and 3,5,3'-triiodothyronine (T3) in the bloodstream. Of these three proteins, Serpine A7 has the highest affinity for T4 and T3, but is present in the lowest concentration. Despite its low concentration, Serpine A7 carries the

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majority of T4 in serum. Due to the very low serum concentration of T4 and T3 in the blood, Serpin A7 is rarely more than 25% saturated with its ligand. Unlike transthyretin and albumin, Serpin A7 has a single binding site for T4/T3. Serpin A7 tests are sometimes used in finding the reason for elevated or diminished levels of thyroid hormone, and defects in Serpin A7 are a cause of Serpin A7 deficiency.

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