

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived
Ala21-Ala415, with a C-terminal 6-His tag
Accession # P05543

N-terminal Sequence Analysis Ala21

Predicted Molecular Mass 45 kDa

SPECIFICATIONS

SDS-PAGE 58-66 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Thyroxine-BSA Conjugate is immobilized at 2.5 µg/mL, 100 µL/well, Recombinant Human Serpin A7/TBG binds with an ED₅₀ of 0.4-2 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in Tris and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

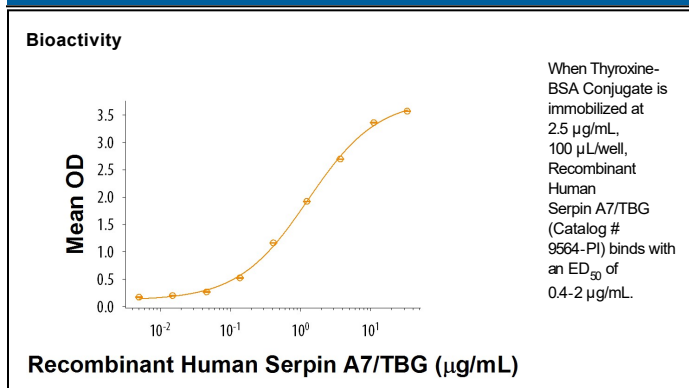
Reconstitution Reconstitute at 1 mg/mL in water.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

Thyroxine-binding globulin (TBG), also known as Serpin A7, is an approximately 44 kDa member of the serpin superfamily of serine protease inhibitors. TBG belongs to the clade A subgroup of serpins which include inflammatory response molecules (1). Human TBG shares 76% sequence identity to mouse TBG. TBG is one of two serpins known to bind and transport hormones. TBG is responsible for binding the majority of thyroxine (T4) in the blood and releasing it through conformational changes in the reactive loop (2). In addition, cleavage of TBG's reactive site loop by proteases present at inflammatory sites causes a targeted and immediate release of thyroxine from TBG (3). TBG levels are modified by estrogen levels (4-6) and may directly predict perinatal syndromal depression in late pregnancy (6). In addition, elevated TBG levels were a reported marker for chronic obstructive pulmonary disease (7) in support of reported endocrine system dysfunction in patients with the disease (8, 9).

References:

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4. Glinoe, D. (1997) *Endocr. Rev.* 18:404.
5. Gaberscek, S. and K. Zaletel (2011) *Expert Rev. Clin. Immunol.* 7:697.
6. Pedersen, C. *et al.* (2016) *Psychoneuroendocrinology* 65:84.
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8. Terzano, C *et al.* (2014) *Lung* 192:103.
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