

THYROXINE BINDING GLOBULIN

Abbreviations	TBG
Accession Number	P05543
Source	Human Plasma
Applications	Control Manufacture, Life Science, Clinical Chemistry, Biosensors, ELISA Assay, Lateral Flow

Protein Function	Along with transthyretin and albumin, thyroxine binding globulin (TBG) binds and transports the thyroid hormones (3,5,3'-triiodothyronine (T3) and thyroxine (T4)) in the circulation. It has the highest affinity for T3/T4 of these three proteins and carries the majority of the T3/T4 in the blood. It has a single binding site for T3/T4 and about 25% of the protein is normally saturated. For the x-ray structure with bound thyroxine see Zou et al. (2006). ¹	
Tissue Occurrence & Abundance	TBG is synthesised in the liver and carried in the blood. The reference range in the blood is 12–30 mg/L.	
Function in Disease	TBG may be depressed or elevated in a number of diseases; however, its main utility in diagnosis is to assess thyroid function by determining the amount of free T3/T4 with a thyroid uptake test. In this, ¹²⁵ I-labelled thyroxine is added to a serum sample. ¹²⁵ I-thyroxine is then taken up by TBG and the remaining non-bound ¹²⁵ I-thyroxine is bound to a resin and measured. High or low thyroxine uptake measurements will indicate either high/low T3/T4 levels (hyper or hypothyroidism) or TBG levels outside the reference range.	
Structure	Molecular weight	55,000
	Amino acids	395
	Disulphide bonds	2
	pI value(s)	4.0
	Prosthetic group	None
	Glycosylation	There are 5 N-linked glycosylation sites amounting to about 18% glycosylation of the protein.
	Oligomerisation	None
	Isoforms	There are a number of SNP variants recorded.

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References

1. Zhou, A, Wei, Z, Read, RJ, Carrell RW (2006) Structural mechanism for the carriage and release of thyroxine in the blood. Proc. Natl. Acad. Sci. U.S.A.103: 13321-13326

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- + With a network of global labs and hospitals, we can access many diverse testing platforms, providing you with the exact analysis results you need.
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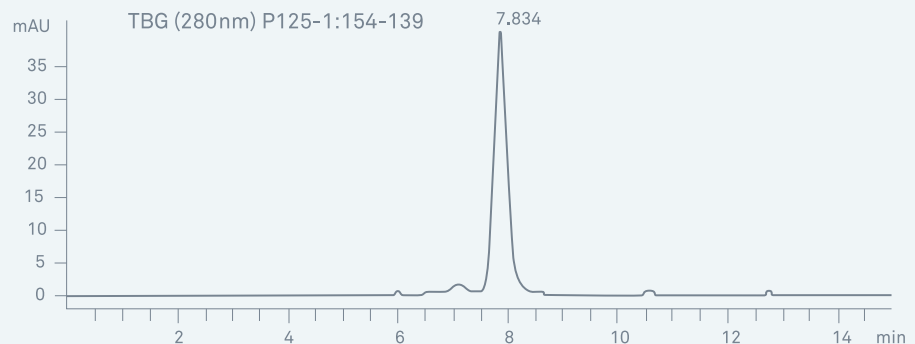
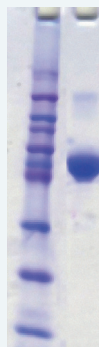
Purity

>98%, >70% pure

Stability & Formulation

Supplied Lyophilised – Store at 2-8°C

SDS PAGE & Size exclusion HPLC



Dispensations

P125-1 – 1mg / 10mg / 50mg
P125-2 – 10mg / 100mg / 500mg

ORDERING DETAILS – USE THE FOLLOWING CODES WHEN ORDERING

Product	Code	Description
Thyroxine Binding Globulin	P125-1	> 98% pure supplied Lyophilised sourced from Human Serum
Thyroxine Binding Globulin	P125-2	> 70% pure supplied Lyophilised sourced from Human Serum
Related Product	SF125-2	Thyroid Binding Globulin Depleted Serum

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