

# TBG (M-65): sc-98840

## BACKGROUND

The serine proteinase inhibitors (serpins) compose a superfamily of proteins with a diverse set of functions, including the control of blood coagulation, complement activation, programmed cell death and development. Serpins are secreted glycoproteins that contain a stretch of peptide that mimics a true substrate for a corresponding serine protease. Serpin family members include thyroxine-binding globulin precursor (TBG). TBG is a serum protein that transports thyroxine, carrying approximately 75% of circulating T4. Inherited defects in TBG are associated with three phenotypes based on the level of TBG in serum of affected hemizygous males: complete TBG deficiency (TBG-CD), partial TBG deficiency (TBG-PD) and TBG excess (TBG-E). TBG is expressed by the liver and secreted in plasma.

## REFERENCES

1. Marshall, J.S., et al. 1969. Studies on human thyroxine-binding globulin (TBG). I. Purification of TBG and immunologic studies on the relationship between TBG from normal persons and those with TBG "deficiency." *J. Clin. Invest.* 48: 508-515.
2. Rivas, M.L., et al. 1971. Genetic variants of thyroxine-binding globulin (TBG). *Birth Defects Orig. Artic. Ser.* 7: 34-41.
3. Omenn, G.S. 1971. Studies of serum thyroxine-binding globulin (TBG). *Birth Defects Orig. Artic. Ser.* 7: 42.
4. Wahner, H.W., et al. 1971. Thyroid overactivity and TBG deficiency simulating "T3 hyperthyroidism." *J. Clin. Endocrinol. Metab.* 33: 93-97.
5. Marshall, J.S., et al. 1971. Studies on thyroxine-binding globulin (TBG). 3. Some physical characteristics of TBG and its interaction with thyroxine. *Arch. Biochem. Biophys.* 146: 76-83.
6. Bhatkar, S.V., et al. 2004. Thyroid hormone binding protein abnormalities in patients referred for thyroid disorders. *Indian J. Med. Res.* 120: 160-165.
7. Lanting, C.I., et al. 2005. Clinical effectiveness and cost-effectiveness of the use of the thyroxine/thyroxine-binding globulin ratio to detect congenital hypothyroidism of thyroidal and central origin in a neonatal screening program. *Pediatrics* 116: 168-173.
8. van den Beld, A.W., et al. 2005. Thyroid hormone concentrations, disease, physical function and mortality in elderly men. *J. Clin. Endocrinol. Metab.* 90: 6403-6409.

## CHROMOSOMAL LOCATION

Genetic locus: *Serpina7* (mouse) mapping to X F1.

## SOURCE

TBG (M-65) is a rabbit polyclonal antibody raised against amino acids 110-174 mapping within an internal region of TBG of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

TBG (M-65) is recommended for detection of TBG of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TBG (M-65) is also recommended for detection of TBG in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for TBG siRNA (m): sc-45383, TBG shRNA Plasmid (m): sc-45383-SH and TBG shRNA (m) Lentiviral Particles: sc-45383-V.

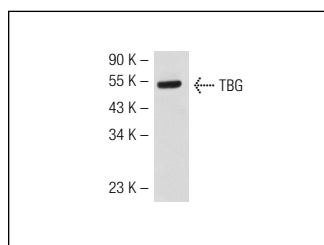
Molecular Weight of TBG: 49-50 kDa.

Positive Controls: mouse liver extract: sc-2256 or c4 cell lysate.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



TBG (M-65): sc-98840. Western blot analysis of TBG expression in mouse liver tissue extract.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.