

TBG (H-45): sc-98839

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 (human) mapping to Xq22.3.

SOURCE

TBG (H-45) is a rabbit polyclonal antibody raised against amino acids 361-404 mapping near the C-terminus of TBG of human 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 (H-45) is recommended for detection of TBG of human 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TBG siRNA (h): sc-45382, TBG shRNA Plasmid (h): sc-45382-SH and TBG shRNA (h) Lentiviral Particles: sc-45382-V.

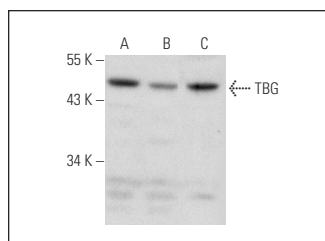
Molecular Weight of TBG: 49-50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or MDA-MB-231 cell lysate: sc-2232.

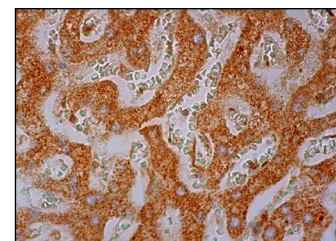
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



TBG (H-45): sc-98839. Western blot analysis of TBG expression in HeLa (A), MDA-MB-231 (B) and Jurkat (C) whole cell lysates.



TBG (H-45): sc-98839. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

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.