

# SHBG (G-4): sc-377031

## BACKGROUND

Sex hormone-binding globulin (SHBG) precursor is a secreted homodimer that binds steroid hormones. SHBG, also known as testis-specific androgen-binding protein or testosterone-estradiol binding globulin (TeBG), functions as an androgen transport protein and is involved in receptor mediated processes. It is specific for 7- $\beta$ -estradiol and 5- $\alpha$ -dihydrotestosterone and testosterone. By controlling the plasma concentration of steroid hormones, SHBG regulates the plasma metabolic clearance rate of the hormones. Isoforms 1 and 2 of the protein are detected in liver and testis. In testis SHBG is synthesized by the Sertoli cells, secreted into the seminiferous tubule and then transported to the epididymis.

## REFERENCES

1. Power, S.G., et al. 1992. Molecular analyses of a human sex hormone-binding globulin variant: evidence for an additional carbohydrate chain. *J. Clin. Endocrinol. Metab.* 75: 1066-1070.
2. Hardy, D.O., et al. 1995. Molecular characterization of a genetic variant of the steroid hormone-binding globulin gene in heterozygous subjects. *J. Clin. Endocrinol. Metab.* 80: 1253-1256.
3. Cargill, M., et al. 1999. Characterization of single-nucleotide polymorphisms in coding regions of human genes. *Nat. Genet.* 22: 231-238.
4. Grishkovskaya, I., et al. 2000. Crystal structure of human sex hormone-binding globulin: steroid transport by a laminin G-like domain. *EMBO. J.* 19: 504-512.
5. Fejes, I., et al. 2005. Is semen quality affected by male body fat distribution? *Andrologia* 37: 155-159.
6. Joffe, H.V., et al. 2005. Sex hormone-binding globulin and serum testosterone are inversely associated with c-reactive protein levels in postmenopausal women at high risk for cardiovascular disease. *Ann. Epidemiol.* 16: 105-112.

## CHROMOSOMAL LOCATION

Genetic locus: SHBG (human) mapping to 17p13.1.

## SOURCE

SHBG (G-4) is a mouse monoclonal antibody raised against amino acids 103-402 mapping at the C-terminus of SHBG of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

SHBG (G-4) is recommended for detection of SHBG isoforms 1 and 2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for SHBG siRNA (h): sc-44847, SHBG shRNA Plasmid (h): sc-44847-SH and SHBG shRNA (h) Lentiviral Particles: sc-44847-V.

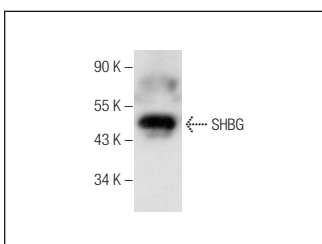
Molecular Weight of SHBG: 45 kDa.

Positive Controls: human testis extract: sc-363781.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



SHBG (G-4): sc-377031. Western blot analysis of SHBG expression in human testis tissue extract.

## SELECT PRODUCT CITATIONS

1. Charni, M., et al. 2016. Novel p53 target genes secreted by the liver are involved in non-cell-autonomous regulation. *Cell Death Differ.* 23: 509-520.

## RESEARCH USE

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