

SHBG (C-2): sc-377032

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- β -estradiol and 5- α -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.

CHROMOSOMAL LOCATION

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

SOURCE

SHBG (C-2) 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 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SHBG (C-2) is available conjugated to agarose (sc-377032 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377032 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377032 PE), fluorescein (sc-377032 FITC), Alexa Fluor[®] 488 (sc-377032 AF488), Alexa Fluor[®] 546 (sc-377032 AF546), Alexa Fluor[®] 594 (sc-377032 AF594) or Alexa Fluor[®] 647 (sc-377032 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377032 AF680) or Alexa Fluor[®] 790 (sc-377032 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

SHBG (C-2) 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 μ g per 100-500 μ 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.

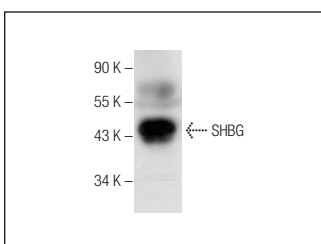
Molecular Weight of SHBG: 45 kDa.

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 κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] 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 κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



SHBG (C-2): sc-377032. Western blot analysis of SHBG expression in human testis tissue extract.

SELECT PRODUCT CITATIONS

1. Lee, S.R., et al. 2019. Sex hormone-binding globulin suppresses NAFLD-triggered hepatocarcinogenesis after menopause. *Carcinogenesis* 40: 1031-1041.
2. Lee, S.R., et al. 2021. Dietary intake of 17 α -ethinylestradiol promotes HCC progression in humanized male mice expressing sex hormone-binding globulin. *Int. J. Mol. Sci.* 22: 12557.

STORAGE

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