

SHP (D-17): sc-23057

BACKGROUND

SHP (also designated short heterodimer partner and small heterodimer partner) is an orphan nuclear receptor containing the dimerization and ligand-binding domains found in other nuclear receptors but lacking the conserved DNA binding domain. SHP is specifically expressed in liver and other tissues including fetal liver and adrenal gland, adult spleen and small intestine. In addition, SHP is highly expressed in the murine macrophage cell line RAW 264.7, but suppressed by oxLDL and 13-HODE, which is a ligand for PPAR γ . SHP interacts with nuclear receptors including thyroid receptor, retinoic acid receptors (RAR and RXR) and estrogen receptors (ER α and ER β). SHP functions as a negative regulator of these receptors by at least three mechanisms: inhibition of DNA binding via dimerization, direct antagonism of coactivator function via competition and possibly transrepression via recruitment of putative corepressors. In oxLDL-treated, resting macrophage cells, SHP acts as a transcription coactivator of NF κ B, suggesting that SHP is a modulatory component in the regulation of the transcriptional activities of NF κ B. Lastly, negative feedback regulation of a hepatic bile acid transporter NTCP is controlled by bile acid-activated FXR via induction of SHP to protect the hepatocyte from bile acid-mediated damage in cholestatic conditions.

REFERENCES

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- Johansson, L., et al. 2000. The orphan nuclear receptor SHP utilizes conserved LXXLL-related motifs for interactions with ligand-activated estrogen receptors. *Mol. Cell. Biol.* 20: 1124-1133.
- Klinge, C.M., et al. 2001. Short heterodimer partner (SHP) orphan nuclear receptor inhibits the transcriptional activity of aryl hydrocarbon receptor (AHR)/AHR nuclear translocator (ARNT). *Arch. Biochem. Biophys.* 390: 64-70.
- Kim, Y.S., et al. 2001. The orphan nuclear receptor SHP, as a novel coregulator of NF κ B in oxLDL-treated macrophage cell RAW 264.7. *J. Biol. Chem.* 276: 33736-33740.
- Denson, L.A., et al. 2001. The orphan nuclear receptor, SHP, mediates bile acid-induced inhibition of the rat bile acid transporter, NTCP. *Gastroenterology* 121: 140-147.

CHROMOSOMAL LOCATION

Genetic locus: NROB2 (human) mapping to 1p36.11; Nr0b2 (mouse) mapping to 4 D2.3.

SOURCE

SHP (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SHP of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-23057 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SHP (D-17) is recommended for detection of SHP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

SHP (D-17) is also recommended for detection of SHP in additional species, including equine, canine and porcine.

Suitable for use as control antibody for SHP siRNA (h): sc-44101, SHP siRNA (m): sc-44870, SHP shRNA Plasmid (h): sc-44101-SH, SHP shRNA Plasmid (m): sc-44870-SH, SHP shRNA (h) Lentiviral Particles: sc-44101-V and SHP shRNA (m) Lentiviral Particles: sc-44870-V.

Molecular Weight of SHP: 26 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or A-431 nuclear extract: sc-2122.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

Store at 4 $^{\circ}$ 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 or our catalog for detailed protocols and support products.


 MONOS
 Satisfaction
 Guaranteed

Try **SHP (H-5): sc-271511** or **SHP (F-12): sc-271469**, our highly recommended monoclonal alternatives to SHP (D-17).