SANTA CRUZ BIOTECHNOLOGY, INC.

SHP (Q-14): sc-15283

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SHP (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, as well as adult spleen and small intestine. In addition, SHP is highy expressed in the murine macrophage cell line RAW 264.7 but suppressed by oxLDL and 13-HODE, which is a ligand for PPARγ. SHP interacts with nuclear receptors, including thyroid receptor, retinoic acid receptors (RAR and RXR) and estrogen receptors (ERα and ERβ). 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 through competition and possibly transrepression via recruitment of putative corepressors. In oxLDL-treated, resting macrophage cells, SHP acts as a transcription coactivator of NFκB, suggesting that SHP is a modulatory component in the regulation of the transcriptional activities of NFκB. 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.

CHROMOSOMAL LOCATION

Genetic locus: NR0B2 (human) mapping to 1p36.11; Nr0b2 (mouse) mapping to 4 D2.3.

SOURCE

SHP (Q-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SHP 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.

Blocking peptide available for competition studies, sc-15283 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SHP (Q-14) 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 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).

SHP (Q-14) is also recommended for detection of SHP in additional species, including equine.

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.

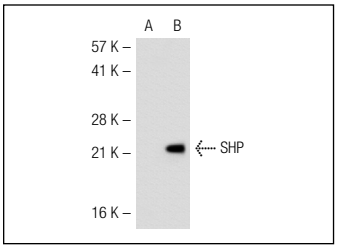
Molecular Weight of SHP: 26 kDa.

Positive Controls: SHP (h): 293T Lysate: sc-114141 or A-431 nuclear extract: sc-2122.

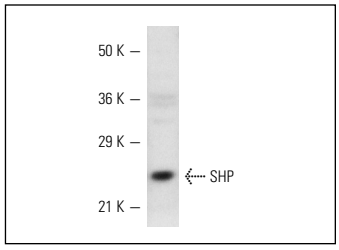
STORAGE

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

DATA



SHP (Q-14): sc-15283. Western blot analysis of SHP expression in non-transfected: sc-117752 (**A**) and human SHP transfected: sc-114141 (**B**) 293T whole cell lysates.



SHP (Q-14): sc-15283. Western blot analysis of SHP expression in A-431 nuclear extract.

SELECT PRODUCT CITATIONS

1. Kim, J.Y., et al. 2004. Orphan nuclear receptor small heterodimer partner represses hepatocyte nuclear factor 3/Foxa transactivation via inhibition of its DNA binding. Mol. Endocrinol. 18: 2880-2894.
2. Yeo, M.G., et al. 2004. Negative cross-talk between Nur77 and SHP and its role in apoptotic cell death of hepatoma cells. Mol. Endocrinol. 19: 950-963.
3. Kim, K., et al. 2010. SHP (small heterodimer partner) suppresses the transcriptional activity and nuclear localization of Hedgehog signalling protein Gli1. Biochem. J. 427: 413-422.
4. Martin, I.V., et al. 2010. Bile acid retention and activation of endogenous hepatic farnesoid-X-receptor in the pathogenesis of fatty liver disease in ob/ob-mice. Biol. Chem. 391: 1441-1449.
5. Yang, C.S., et al. 2013. Small heterodimer partner-targeting therapy inhibits systemic inflammatory responses through mitochondrial uncoupling protein 2. PLoS ONE 8: e63435.
6. Chen, F., et al. 2013. Phospholipase D2 mediates signaling by ATPase class I type 8B membrane 1. J. Lipid Res. 54: 379-385.

RESEARCH USE

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