SANTA CRUZ BIOTECHNOLOGY, INC.

# SHP (H-160): sc-30169

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 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 via 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 (H-160) is a rabbit polyclonal antibody raised against amino acids 1-160 mapping at 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.

## APPLICATIONS

SHP (H-160) 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 (H-160) is also recommended for detection of SHP in additional species, including canine.

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: 28 kDa.

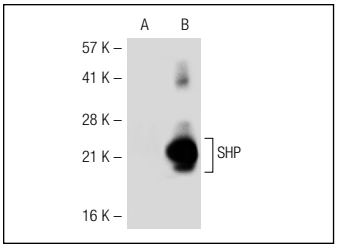
## STORAGE

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.

## DATA




SHP (H-160): sc-30169. Western blot analysis of SHP expression in non-transfected: sc-117752 (**A**) and human SHP transfected: sc-114141 (**B**) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Alvarez-Errico, D., et al. 2007. The IREM-1 (CD300f) inhibitory receptor associates with the p85α subunit of phosphoinositide 3-kinase. J. Immunol. 178: 808-816.
2. Chen, F., et al. 2010. ATPase Class I Type 8B Member 1 and protein kinase C ζ induce the expression of the canalicular bile salt export pump in human hepatocytes. Pediatr. Res. 67: 183-187.
3. Chanda, D., et al. 2010. Transcriptional corepressor SHP recruits SIRT1 histone deacetylase to inhibit LRH-1 transactivation. Nucleic Acids Res. 38: 4607-4619.
4. Kim, H.M., et al. 2010. Obox4 regulates the expression of histone family genes and promotes differentiation of mouse embryonic stem cells. FEBS Lett. 584: 605-611.
5. Kanamaluru, D., et al. 2011. Arginine methylation by PRMT5 at a naturally occurring mutation site is critical for liver metabolic regulation by small heterodimer partner. Mol. Cell. Biol. 31: 1540-1550.
6. Kim, D.H., et al. 2011. Tumor suppressor p53 regulates bile acid homeostasis via small heterodimer partner. Proc. Natl. Acad. Sci. USA 108: 12266-12270.
7. Krausova, L., et al. 2011. Metformin suppresses pregnane X receptor (PXR)-regulated transactivation of CYP3A4 gene. Biochem. Pharmacol. 82: 1771-1780.
8. Yang, C.S., et al. 2013. Small heterodimer partner-targeting therapy inhibits systemic inflammatory responses through mitochondrial uncoupling protein 2. PLoS ONE 8: e63435.