

# OSC (H-300): sc-292784

## BACKGROUND

OSC, also known as LSS (lanosterol synthase), is a 732 amino acid protein that contains four PFTB repeats and belongs to the terpene cyclase family. Functioning in the pathway of terpene metabolism, OSC catalyzes the first step in the biosynthesis of cholesterol, vitamin D and steroid hormones, namely the conversion of (S)-2,3 oxidosqualene to lanosterol. Lanosterol is a tetracyclic triterpenoid that is required for the synthesis of all steroids. Due to its role in lanosterol production, OSC is crucial for proper cholesterol formation and overall steroid function. Human OSC shares 83% homology with its rat counterpart, suggesting a conserved role between species. Multiple isoforms of OSC exist as a result of alternative splicing events.

## REFERENCES

1. Baker, C.H., Matsuda, S.P., Liu, D.R. and Corey, E.J. 1995. Molecular cloning of the human gene encoding lanosterol synthase from a liver cDNA library. *Biochem. Biophys. Res. Commun.* 213: 154-160.
2. Sung, C.K., Shibuya, M., Sankawa, U. and Ebizuka, Y. 1995. Molecular cloning of cDNA encoding human lanosterol synthase. *Biol. Pharm. Bull.* 18: 1459-1461.
3. Young, M., Chen, H., Lalioti, M.D. and Antonarakis, S.E. 1996. The human lanosterol synthase gene maps to chromosome 21q22.3. *Hum. Genet.* 97: 620-624.
4. Mark, M., Muller, P., Maier, R. and Eisele, B. 1996. Effects of a novel 2,3-oxidosqualene cyclase inhibitor on the regulation of cholesterol biosynthesis in HepG2 cells. *J. Lipid Res.* 37: 148-158.
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6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600909. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: LSS (human) mapping to 21q22.3; Lss (mouse) mapping to 10 C1.

## SOURCE

OSC (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of OSC 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.

## STORAGE

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

## APPLICATIONS

OSC (H-300) is recommended for detection of OSC 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).

OSC (H-300) is also recommended for detection of OSC in additional species, including bovine.

Suitable for use as control antibody for OSC siRNA (h): sc-91491, OSC siRNA (m): sc-151329, OSC shRNA Plasmid (h): sc-91491-SH, OSC shRNA Plasmid (m): sc-151329-SH, OSC shRNA (h) Lentiviral Particles: sc-91491-V and OSC shRNA (m) Lentiviral Particles: sc-151329-V.

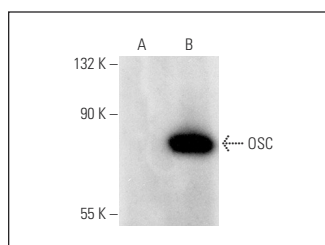
Molecular Weight of OSC: 83 kDa.

Positive Controls: OSC (h3): 293T Lysate: sc-170591, HeLa whole cell lysate: sc-2200 or mouse liver extract: sc-2256.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



OSC (H-300): sc-292784. Western blot analysis of OSC expression in non-transfected: sc-117752 (A) and human OSC transfected: sc-170591 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

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