SANTA CRUZ BIOTECHNOLOGY, INC.

# OSC (G-6): sc-365129

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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., et al. 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., et al. 1995. Molecular cloning of cDNA encoding human lanosterol synthase. Biol. Pharm. Bull. 18: 1459-1461.
3. Young, M., et al. 1996. The human lanosterol synthase gene maps to chromosome 21q22.3. Hum. Genet. 97: 620-624.
4. Mark, M., et al. 1996. Effects of a novel 2,3-oxidosqualene cyclase inhibitor on the regulation of cholesterol biosynthesis in Hep G2 cells. J. Lipid Res. 37: 148-158.
5. Roessler, E., et al. 1999. Structure of the human lanosterol synthase gene and its analysis as a candidate for holoprosencephaly (HPE1). Hum. Genet. 105: 489-495.
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/
7. Ruf, A., et al. 2004. The monotopic membrane protein human oxidosqualene cyclase is active as monomer. Biochem. Biophys. Res. Commun. 315: 247-254.


## CHROMOSOMAL LOCATION

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

## SOURCE

OSC (G-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 651-683 near the C-terminus of OSC of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365129 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

OSC (G-6) is recommended for detection of OSC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

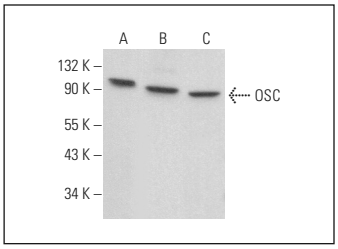
Molecular Weight of OSC: 83 kDa.

Positive Controls: JAR cell lysate: sc-2276, NTERA-2 cl.D1 whole cell lysate: sc-364181 or HL-60 whole cell lysate: sc-2209.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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




OSC (G-6): sc-365129. Western blot analysis of OSC expression in JAR (**A**), NTERA-2 cl.D1 (**B**) and HL-60 (**C**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Moon, S.H., et al. 2019. p53 represses the mevalonate pathway to mediate tumor suppression. Cell 176: 564-580.e19.


## 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.