SANTA CRUZ BIOTECHNOLOGY, INC.

Sur-8 (E-4): sc-514886

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sur-8, also known as SHOC2 (Soc-2 suppressor of clear homolog *(C. elegans)*) or SOC-2, is a 582 amino acid protein and a member of the SHOC2 family that translocates from cytoplasm to nucleus upon growth factor stimulation. Existing as two alternatively spliced isoforms, Sur-8 contains 20 leucine-rich repeats (LRR) and positively modulates Ras-MAPK signal flow. Aberrantly acquired N-myristoylation of SHOC2 is the cause of Noonan-like syndrome with loose anagen hair, a disorder characterized by slow-growing, easily pluckable, thin and sparse hair. Children with Noonan-like syndrome with loose anagen hair exhibit low-set and posteriorly rotated ears, high forehead, palpebral ptosis, hypertelorism, macrocephaly, pectus anomalie along with short and webbed neck. The gene encoding Sur-8 maps to human chromosome 10q25.2 and murine chromosome 19 D2.

REFERENCES

1. Sieburth, D.S., et al. 1998. Sur-8, a conserved Ras-binding protein with leucine-rich repeats, positively regulates Ras-mediated signaling in *C. elegans*. Cell 94: 119-130.
2. Selfors, L.M., et al. 1998. Soc-2 encodes a leucine-rich repeat protein implicated in fibroblast growth factor receptor signaling. Proc. Natl. Acad. Sci. USA 95: 6903-6908.
3. Li, W., et al. 2000. The leucine-rich repeat protein Sur-8 enhances MAP kinase activation and forms a complex with Ras and Raf. Genes Dev. 14: 895-900.
4. Dai, P., et al. 2006. Erbin inhibits RAF activation by disrupting the Sur-8-Ras-Raf complex. J. Biol. Chem. 281: 927-933.
5. Rodriguez-Viciana, P., et al. 2006. A phosphatase holoenzyme comprised of Shoc2/Sur8 and the catalytic subunit of PP1 functions as an M-Ras effector to modulate Raf activity. Mol. Cell 22: 217-230.
6. Cordeddu, V., et al. 2009. Mutation of SHOC2 promotes aberrant protein N-myristoylation and causes Noonan-like syndrome with loose anagen hair. Nat. Genet. 41: 1022-1026.
7. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 602775. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: SHOC2 (human) mapping to 10q25.2; Shoc2 (mouse) mapping to 19 D2.

SOURCE

Sur-8 (E-4) is a mouse monoclonal antibody raised against amino acids 5-304 mapping near the N-terminus of Sur-8 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Sur-8 (E-4) is recommended for detection of Sur-8 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 Sur-8 siRNA (h): sc-76615, Sur-8 siRNA (m): sc-76616, Sur-8 shRNA Plasmid (h): sc-76615-SH, Sur-8 shRNA Plasmid (m): sc-76616-SH, Sur-8 shRNA (h) Lentiviral Particles: sc-76615-V and Sur-8 shRNA (m) Lentiviral Particles: sc-76616-V.

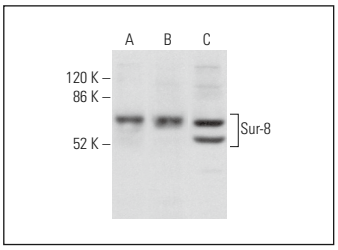
Molecular Weight of Sur-8: 65 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Jurkat whole cell lysate: sc-2204 or U-2 OS cell lysate: sc-2295.

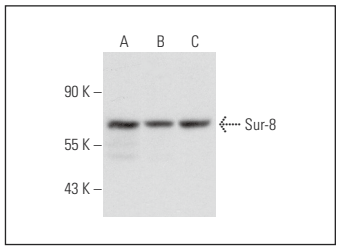
RECOMMENDED SUPPORT REAGENTS

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



Sur-8 (E-4): sc-514886. Western blot analysis of Sur-8 expression in U-2 OS (**A**), Ramos (**B**) and M1 (**C**) whole cell lysates.



Sur-8 (E-4): sc-514886. Western blot analysis of Sur-8 expression in U-2 OS (**A**), MCF7 (**B**) and Jurkat (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Norcross, R.G., et al. 2022. Shoc2 controls ERK1/2-driven neural crest development by balancing components of the extracellular matrix. Dev. Biol. 492: 156-171.

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.