

# SURF-1 (K-19): sc-55905

## BACKGROUND

The SURF-1 protein demonstrates a vital role in the assembly of complex IV (CIV or COX) of the mitochondrial respiratory chain. Expressed in the inner mitochondrial membrane, mutations of the SURF-1 gene generally cause cytochrome c oxidase complex IV deficiency. Shortage of complex IV leads to Leigh syndrome, a severe neurological disorder. Leigh syndrome patients are usually subject to rapidly progressive encephalopathy, characterized by necrotic lesions in subcortical brain regions. SURF-1 mutations correlate to high post-implantation embryonic lethality as well as early-onset mortality of post-natal individuals. Considerable deficit in muscle strength and motor performance is also a profound and isolated defect of SURF-1 activity in skeletal muscle and liver. Heart, brain and skeletal muscle morphological abnormalities frequently occur due to SURF-1 mutations.

## CHROMOSOMAL LOCATION

Genetic locus: SURF1 (human) mapping to 9q34.2; Surf1 (mouse) mapping to 2 A3.

## SOURCE

SURF-1 (K-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SURF-1 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-55905 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

SURF-1 (K-19) is recommended for detection of SURF-1 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).

SURF-1 (K-19) is also recommended for detection of SURF-1 in additional species, including canine and bovine.

Suitable for use as control antibody for SURF-1 siRNA (h): sc-63090, SURF-1 siRNA (m): sc-63091, SURF-1 shRNA Plasmid (h): sc-63090-SH, SURF-1 shRNA Plasmid (m): sc-63091-SH, SURF-1 shRNA (h) Lentiviral Particles: sc-63090-V and SURF-1 shRNA (m) Lentiviral Particles: sc-63091-V.

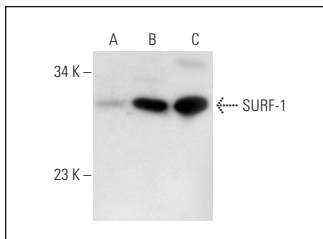
Molecular Weight of SURF-1: 31 kDa.

Positive Controls: mouse liver extract: sc-2256, SURF-1 (h4): 293T Lysate: sc-176677 or HeLa whole cell lysate: sc-2200.

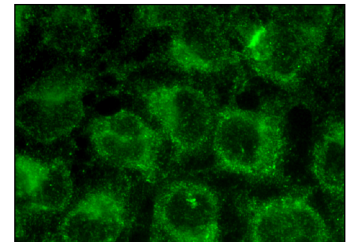
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



SURF-1 (K-19): sc-55905. Western blot analysis of SURF-1 expression in non-transfected 293T: sc-117752 (A), human SURF-1 transfected 293T: sc-176677 (B) and HeLa (C) whole cell lysates.



SURF-1 (K-19): sc-55905. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## 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.



Try **SURF-1 (H-7): sc-365159** or **SURF-1 (D-9): sc-166948**, our highly recommended monoclonal alternatives to SURF-1 (K-19).