

# SESN2 (D-4): sc-393195

## BACKGROUND

SESN2, also known as sestrin 2, HI95, SES2 or SEST2, is a 480 amino acid protein that belongs to the sestrin family of PA26-related proteins. Expressed in a variety of tissues throughout the body, SESN2 is thought to be involved in the regulation of cell growth and survival and may play a role in mediating stress-induced cellular responses. SESN2 expression is upregulated following oxidative stress or DNA damage. This leads to cell toxicity and subsequent apoptosis, implying an essential role for SESN2 in the regulation of cell viability. Conversely, overexpression of SESN2 in breast cancer cells leads to protection from apoptosis, suggesting a possible role for SESN2 in tumor progression. SESN2 is, therefore, a crucial regulator of cell survival whose function varies depending on cellular conditions.

## CHROMOSOMAL LOCATION

Genetic locus: SESN2 (human) mapping to 1p35.3; *Sesn2* (mouse) mapping to 4 D2.3.

## SOURCE

SESN2 (D-4) is a mouse monoclonal antibody raised against amino acids 45-106 mapping near the N-terminus of SESN2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SESN2 (D-4) is available conjugated to agarose (sc-393195 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393195 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393195 PE), fluorescein (sc-393195 FITC), Alexa Fluor® 488 (sc-393195 AF488), Alexa Fluor® 546 (sc-393195 AF546), Alexa Fluor® 594 (sc-393195 AF594) or Alexa Fluor® 647 (sc-393195 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393195 AF680) or Alexa Fluor® 790 (sc-393195 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

SESN2 (D-4) is recommended for detection of SESN2 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), immunohistochemistry (including paraffin-embedded sections) (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 SESN2 siRNA (h): sc-106544, SESN2 siRNA (m): sc-153380, SESN2 siRNA (r): sc-270489, SESN2 shRNA Plasmid (h): sc-106544-SH, SESN2 shRNA Plasmid (m): sc-153380-SH, SESN2 shRNA Plasmid (r): sc-270489-SH, SESN2 shRNA (h) Lentiviral Particles: sc-106544-V, SESN2 shRNA (m) Lentiviral Particles: sc-153380-V and SESN2 shRNA (r) Lentiviral Particles: sc-270489-V.

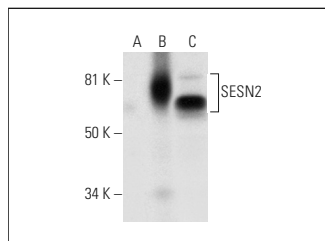
Molecular Weight of SESN2: 60 kDa.

Positive Controls: SESN2 (h3): 293T Lysate: sc-172645 or U-87 MG cell lysate: sc-2411.

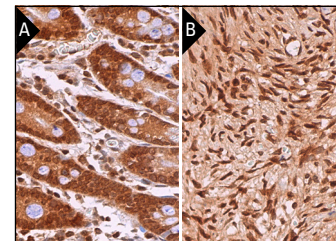
## STORAGE

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

## DATA



SESN2 (D-4): sc-393195. Western blot analysis of SESN2 expression in non-transfected 293T: sc-117752 (A), human SESN2 transfected 293T: sc-1172645 (B) and U-87 MG (C) whole cell lysates.



SESN2 (D-4): sc-393195. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear and cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear and cytoplasmic staining of ovarian stroma cells (B).

## SELECT PRODUCT CITATIONS

- Cordani, M., et al. 2018. Mutant p53 blocks SESN1/AMPK/PGC-1 $\alpha$ /UCP2 axis increasing mitochondrial O<sub>2</sub><sup>-</sup> production in cancer cells. *Br. J. Cancer* 119: 994-1008.
- Kshattray, S., et al. 2019. Enzyme-mediated depletion of l-cyst(e)ine synergizes with thioredoxin reductase inhibition for suppression of pancreatic tumor growth. *NPJ Precis. Oncol.* 3: 16.
- Wang, L.X., et al. 2020. Sestrin2 protects dendritic cells against endoplasmic reticulum stress-related apoptosis induced by high mobility group box-1 protein. *Cell Death Dis.* 11: 125.
- Lin, Q., et al. 2020. Sestrin-2 regulates podocyte mitochondrial dysfunction and apoptosis under high-glucose conditions via AMPK. *Int. J. Mol. Med.* 45: 1361-1372.
- Chen, W., et al. 2020. Discovery of potential mitochondrial transcription inhibitors as anticancer agents by transcriptomic profiling. *ChemMedChem* 15: 2029-2039.
- Machado, I.F., et al. 2021. miR-378a-3p participates in metformin's mechanism of action on C2C12 cells under hyperglycemia. *Int. J. Mol. Sci.* 22: 541.

## 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) for detailed protocols and support products.

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