

# SESN2 (F-1): sc-514058

## 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.

## REFERENCES

1. Budanov, A.V., Shoshani, T., Faerman, A., Zelin, E., Kamer, I., Kalinski, H., Gorodin, S., Fishman, A., Chajut, A., Einat, P., Skaliter, R., Gudkov, A.V., Chumakov, P.M. and Feinstein, E. 2002. Identification of a novel stress-responsive gene Hi95 involved in regulation of cell viability. *Oncogene* 21: 6017-6031.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607767. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Peeters, H., Debeer, P., Bairoch, A., Wilquet, V., Huysmans, C., Parthoens, E., Fryns, J.P., Gewillig, M., Nakamura, Y., Niiikawa, N., Van de Ven, W. and Devriendt, K. 2003. PA26 is a candidate gene for heterotaxia in humans: identification of a novel PA26-related gene family in human and mouse. *Hum. Genet.* 112: 573-580.
4. Budanov, A.V., Sablina, A.A., Feinstein, E., Koonin, E.V. and Chumakov, P.M. 2004. Regeneration of peroxiredoxins by p53-regulated sestrins, homologs of bacterial AhpD. *Science* 304: 596-600.
5. Kopnin, P.B., Agapova, L.S., Kopnin, B.P. and Chumakov, P.M. 2007. Repression of sestrin family genes contributes to oncogenic Ras-induced reactive oxygen species up-regulation and genetic instability. *Cancer Res.* 67: 4671-4678.

## CHROMOSOMAL LOCATION

Genetic locus: SESN2 (human) mapping to 1p35.3.

## SOURCE

SESN2 (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 22-47 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.

Blocking peptide available for competition studies, sc-514058 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

SESN2 (F-1) is recommended for detection of SESN2 of 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 SESN2 siRNA (h): sc-106544, SESN2 shRNA Plasmid (h): sc-106544-SH and SESN2 shRNA (h) Lentiviral Particles: sc-106544-V.

Molecular Weight of SESN2: 60 kDa.

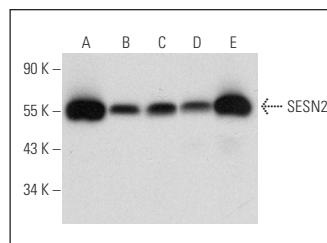
Positive Controls: SESN2 (h3): 293T Lysate: sc-172645, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

## RECOMMENDED SUPPORT REAGENTS

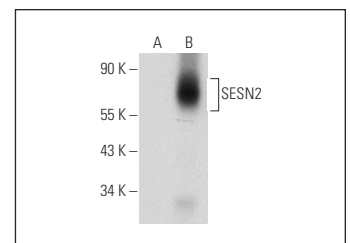
To ensure optimal results, the following support reagents are recommended:

- 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, 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 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



SESN2 (F-1): sc-514058. Western blot analysis of SESN2 expression in K-562 (A), HeLa (B), Jurkat (C), Hep G2 (D) and U-87 MG (E) whole cell lysates.



SESN2 (F-1): sc-514058. Western blot analysis of SESN2 expression in non-transfected: sc-117752 (A) and human SESN2 transfected: sc-172645 (B) 293T whole cell lysates.

## 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.

## PROTOCOLS

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