

SESN2 (h): 293 Lysate: sc-177915

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., Skalter, 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., Frys, J.P., Gewillig, M., Nakamura, Y., Niikawa, 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.

PRODUCT

SESN2 (h): 293 Lysate represents a lysate of human SESN2 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

SESN2 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive SESN2 antibodies. Recommended use: 10-20 µl per lane.

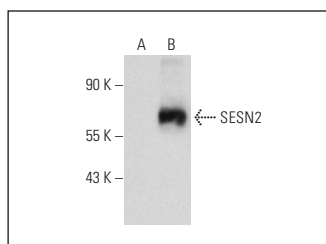
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

SESN2 (41-K): sc-101249 is recommended as a positive control antibody for Western Blot analysis of enhanced human SESN2 expression in SESN2 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



SESN2 (41-K): sc-101249. Western blot analysis of SESN2 expression in non-transfected: sc-110760 (A) and human SESN2 transfected: sc-177915 (B) 293 whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.