

Gas2 (m2): 293T Lysate: sc-126892

BACKGROUND

Gas2 is a 313 amino acid protein that is encoded by the gene GAS2. Gas2 is thought to play a role in apoptosis by acting as a cell death substrate for caspases. Gas2, a component of the microfilament system, is cleaved by a caspase (caspase-3 and caspase-7) at Asparagine 278 during apoptosis. The cleaved form resulting from this dramatically induces the rearrangement of the Actin cytoskeleton and causes potent changes in the shape of the affected cells. Gas2 is believed to also be involved in the membrane ruffling process. During the G₀-G₁ transition phase Gas2 can be found phosphorylated on its serine residues. Gas2 is a cytoskeleton and peripheral membrane protein that co-localizes with Actin fibers at the cell border and along the stress fibers in growth-arrested fibroblasts. Gas2 is mainly membrane-associated but when hyperphosphorylated it will accumulate at membrane ruffles. Gas2 is specifically expressed at growth arrest and is ubiquitously expressed with highest levels found in liver, lung and kidney. There is no evidence, however, of Gas2 expression in spleen.

REFERENCES

1. Fleming, J.V., Hay, S.M., Harries, D.N. and Rees, W.D. 1998. Effects of nutrient deprivation and differentiation on the expression of growth-arrest genes (Gas and Gadd) in F9 embryonal carcinoma cells. *Biochem. J.* 330: 573-579.
2. Collavin, L., Buzzai, M., Saccone, S., Bernard, L., Federico, C., DellaValle, G., Brancolini, C. and Schneider, C. 1998. cDNA characterization and chromosome mapping of the human GAS2 gene. *Genomics* 48: 265-269.
3. Sgorbissa, A., Benetti, R., Marzinotto, S., Schneider, C. and Brancolini, C. 2000. Caspase-3 and caspase-7 but not caspase-6 cleave Gas2 *in vitro*: implications for microfilament reorganization during apoptosis. *J. Cell Sci.* 112: 4475-4482.
4. Benetti, R., Del Sal, G., Monte, M., Paroni, G., Brancolini, C. and Schneider, C. 2001. The death substrate Gas2 binds m-Calpain and increases susceptibility to p53-dependent apoptosis. *EMBO J.* 20: 2702-2714.
5. Goriounov, D., Leung, C.L. and Liem, R.K. 2003. Protein products of human Gas2-related genes on chromosomes 17 and 22 (hGAR17 and hGAR22) associate with both microfilaments and microtubules. *J. Cell Sci.* 116: 1045-1058.
6. Brockman, J.L. and Schuler, L.A. 2005. Prolactin signals via Stat5 and Oct-1 to the proximal cyclin D1 promoter. *Mol. Cell. Endocrinol.* 239: 45-53.
7. Ragni, E., Fontaine, T., Gissi, C., Latgè, J.P. and Popolo, L. 2007. The Gas family of proteins of *Saccharomyces cerevisiae*: characterization and evolutionary analysis. *Yeast* 24: 297-308.
8. Ragni, E., Coluccio, A., Rolli, E., Rodriguez-Peña, J.M., Colasante, G., Arroyo, J., Neiman, A.M. and Popolo, L. 2007. GAS2 and GAS4, a pair of developmentally regulated genes required for spore wall assembly in *Saccharomyces cerevisiae*. *Eukaryot. Cell* 6: 302-316.

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.

CHROMOSOMAL LOCATION

Genetic locus: Gas2 (mouse) mapping to 7 B5.

PRODUCT

Gas2 (m2): 293T Lysate represents a lysate of mouse Gas2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Gas2 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Gas2 antibodies. Recommended use: 10-20 µl per lane.

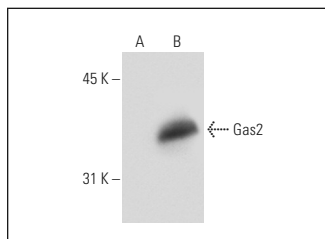
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Gas2 (L-14): sc-101241 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Gas2 expression in Gas2 transfected 293T 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



Gas2 (L-14): sc-101241. Western blot analysis of Gas2 expression in non-transfected: sc-117752 (A) and mouse Gas2 transfected: sc-126892 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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