

Gas2 (E-14): sc-54807

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., et al. 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., et al. 1998. cDNA characterization and chromosome mapping of the human GAS2 gene. *Genomics* 48: 265-269.
3. Sgorbissa, A., et al. 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., et al. 2001. The death substrate Gas2 binds m-Calpain and increases susceptibility to p53-dependent apoptosis. *EMBO J.* 20: 2702-2714.
5. Goriounov, D., et al. 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., et al. 2007. The Gas family of proteins of *Saccharomyces cerevisiae*: characterization and evolutionary analysis. *Yeast* 24: 297-308.
8. Ragni, E., et al. 2007. GAS2 and GAS4, a pair of developmentally regulated genes required for spore wall assembly in *Saccharomyces cerevisiae*. *Eukaryotic Cell* 6: 302-316.

CHROMOSOMAL LOCATION

Genetic locus: GAS2 (human) mapping to 11p14.3; Gas2 (mouse) mapping to 7 B5.

SOURCE

Gas2 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Gas2 of human origin.

RESEARCH USE

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

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-54807 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Gas2 (E-14) is recommended for detection of Gas 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Gas2 (E-14) is also recommended for detection of Gas 2 in additional species, including equine and canine.

Suitable for use as control antibody for Gas2 siRNA (h): sc-62368, Gas2 siRNA (m): sc-62369, Gas2 shRNA Plasmid (h): sc-62368-SH, Gas2 shRNA Plasmid (m): sc-62369-SH, Gas2 shRNA (h) Lentiviral Particles: sc-62368-V and Gas2 shRNA (m) Lentiviral Particles: sc-62369-V.

Molecular Weight (predicted) of Gas2: 35 kDa.

Molecular Weight (observed) of Gas2: 30-37 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

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) 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.

STORAGE

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

PROTOCOLS

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