

GAS41 (H-127): sc-366035

BACKGROUND

Gene amplification is associated with tumor stage and progression in human gliomas. Several amplified loci are identified and comprise multiple genes. The glioma amplified sequence 41 (GAS41) is an evolutionarily conserved eukaryotic protein found in diverse species. GAS41 is related to the AF-9 and ENL proteins, which are putative transcription factors in some acute leukemias, and interacts with a component of the nuclear matrix, NuMA, in interphase cells. GAS41 has a dotted staining pattern in interphase nuclei and a uniform distribution in mitotic cells. GAS41 is ubiquitously expressed, with the highest levels of expression in human brain. In neuroblastoma, GAS41 is located in the nucleoli, but not in the nucleoplasm. GAS41 also binds to the MLL fusion partner AF10, which is involved in two distinct chromosomal translocations associated with hematologic malignancy. In addition, GAS41 interacts with INI1 (Integrase Interactor), which is a human homologue of the yeast SNF5 protein, a component of the SWI/SNF complex. The GAS41 gene maps to human chromosome 12q15.

REFERENCES

1. Fischer, U., Meltzer, P. and Meese, E. 1996. Twelve amplified and expressed genes localized in a single domain in glioma. *Hum. Genet.* 98: 625-628.
2. Gracia, E., Fischer, U., Elkahloun, A., Trent, J. M., Meese, E. and Meltzer, P. S. 1996. Isolation of genes amplified in human cancers by microdissection mediated cDNA capture. *Hum. Mol. Genet.* 5: 595-600.
3. Fischer, U., Heckel, D., Michel, A., Janka, M., Hulsebos, T. and Meese, E. 1997. Cloning of a novel transcription factor-like gene amplified in human glioma including astrocytoma grade I. 1997. *Hum. Mol. Genet.* 6: 1817-1822.
4. Harborth, J., Weber, K. and Osborn, M. 2000. GAS41, a highly conserved protein in eukaryotic nuclei, binds to NuMA. *J. Biol. Chem.* 275: 31979-31985.
5. Munnia, A., Schutz, N., Romeike, B.F., Maldener, E., Glass, B., Maas, R., Nastainczyk, W., Feiden, W., Fischer, U. and Meese, E. 2001. Expression, cellular distribution and protein binding of the glioma amplified sequence (GAS41), a highly conserved putative transcription factor. *Oncogene* 20: 4853-4863.
6. Debernardi, S., Bassini, A., Jones, L.K., Chaplin, T., Linder, B., de Bruijn, D.R., Meese, E. and Young, B.D. 2002. The MLL fusion partner AF10 binds GAS41, a protein that interacts with the human SWI/SNF complex. *Blood* 99: 275-281.

CHROMOSOMAL LOCATION

Genetic locus: YEATS4 (human) mapping to 12q15; Yeats4 (mouse) mapping to 10 D2.

SOURCE

GAS41 (H-127) is a rabbit polyclonal antibody raised against amino acids 101-227 mapping at the C-terminus of GAS41 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.

APPLICATIONS

GAS41 (H-127) is recommended for detection of GAS41 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

GAS41 (H-127) is also recommended for detection of GAS41 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for GAS41 siRNA (h): sc-77331, GAS41 siRNA (m): sc-145334, GAS41 shRNA Plasmid (h): sc-77331-SH, GAS41 shRNA Plasmid (m): sc-145334-SH, GAS41 shRNA (h) Lentiviral Particles: sc-77331-V and GAS41 shRNA (m) Lentiviral Particles: sc-145334-V.

Molecular Weight of GAS41: 26 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.