SANTA CRUZ BIOTECHNOLOGY, INC.

GAPT (B-6): sc-398293

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The Power to Question

BACKGROUND

GAPT (growth factor receptor-bound protein 2-binding adapter protein, transmembrane), also known as C5orf29, is a 157 amino acid single-pass membrane protein that belongs to the GAPT family. After stimulation through the B-cell receptor, GAPT negatively regulates B-cell proliferation and may play a role in B-cell marginal zone maintenance. GAPT is known to interact with GRB2 and is highly expressed in PBL and spleen but can also be detected in thymus at lower levels. Expression of GAPT has been confirmed in many B-cell lines, THP-1 and TY. The GAPT gene is conserved in chimpanzee, canine, bovine, mouse and rat, and maps to human chromosome 5q11.2. Chromosome 5 is associated with Cockayne syndrome through the ERCC8 gene and familial adenomatous polyposis through the adenomatous polyposis coli (APC) tumor suppressor gene. Treacher Collins syndrome is also chromosome 5-associated and is caused by insertions or deletions within the TCOF1 gene. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

1. Dixon, M.J., et al. 1991. The gene for Treacher Collins syndrome maps to the long arm of chromosome 5. Am. J. Hum. Genet. 49: 17-22.
2. Saltman, D.L., et al. 1993. A physical map of 15 loci on human chromosome 5q23-q33 by two-color fluorescence *in situ* hybridization. Genomics 16: 726-732.
3. Kadmon, M., et al. 2001. Duodenal adenomatosis in familial adenomatous polyposis coli. A review of the literature and results from the Heidelberg Polyposis Register. Int. J. Colorectal Dis. 16: 63-75.
4. South, S.T., et al. 2006. A new genomic mechanism leading to Cri-du-chat syndrome. Am. J. Med. Genet. A 140: 2714-2720.
5. Aretz, S., et al. 2007. Somatic APC mosaicism: a frequent cause of familial adenomatous polyposis (FAP). Hum. Mutat. 28: 985-992.
6. Cleaver, J.E., et al. 2007. Cockayne syndrome exhibits dysregulation of p21 and other gene products that may be independent of transcription-coupled repair. Neuroscience 145: 1300-1308.
7. Liu, Y. and Zhang, W. 2008. Identification of a new transmembrane adaptor protein that constitutively binds Grb2 in B cells. J. Leukoc. Biol. 84: 842-851.

CHROMOSOMAL LOCATION

Genetic locus: GAPT (human) mapping to 5q11.2.

SOURCE

GAPT (B-6) is a mouse monoclonal antibody raised against amino acids 84-135 mapping within an internal region of GAPT of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GAPT (B-6) is recommended for detection of GAPT 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 GAPT siRNA (h): sc-91636, GAPT shRNA Plasmid (h): sc-91636-SH and GAPT shRNA (h) Lentiviral Particles: sc-91636-V.

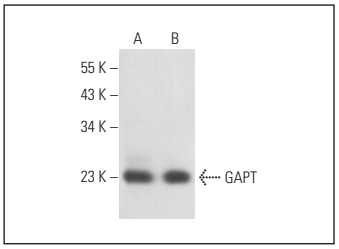
Molecular Weight of GAPT: 25 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, Ramos cell lysate: sc-2216 or THP-1 cell lysate: sc-2238.

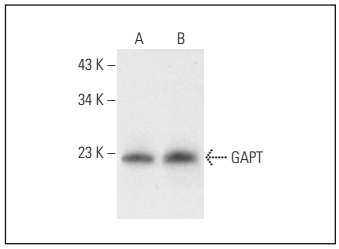
RECOMMENDED SUPPORT REAGENTS

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. 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



GAPT (B-6): sc-398293. Western blot analysis of GAPT expression in Ramos (**A**) and Raji (**B**) whole cell lysates.



GAPT (B-6): sc-398293. Western blot analysis of GAPT expression in THP-1 (**A**) and BJAB (**B**) 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 for detailed protocols and support products.