SANTA CRUZ BIOTECHNOLOGY, INC.

FAM123A (B-2): sc-515471

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The FAM123A (family with sequence similarity 123A) gene encodes for a 671 amino acid protein. There are two isoforms of FAM123A that exist as a result of alternative splicing events. The gene encoding FAM123A is located on chromosome 13, which comprises nearly 4% of human DNA and contains about 114 million base pairs and 400 genes. Key tumor suppressor genes on chromosome 13 include the breast cancer susceptibility gene, BRCA2, and the RB1 (retinoblastoma) gene. RB1 encodes a crucial tumor suppressor protein which, when defective, leads to malignant growth in the retina and has been implicated in a variety of other cancers. The gene SLITRK1, which is associated with Tourette syndrome, is on chromosome 13. As with most chromosomes, polysomy of part or all of chromosome 13 is deleterious to development and decreases the odds of survival.

REFERENCES

1. Dunham, A., et al. 2004. The DNA sequence and analysis of human chromosome 13. Nature 428: 522-528.
2. Deng, H., et al. 2006. Examination of the SLITRK1 gene in Caucasian patients with Tourette syndrome. Acta Neurol. Scand. 114: 400-402.
3. Giacinti, C. and Giordano, A. 2006. RB and cell cycle progression. Oncogene 25: 5220-5227.
4. Grados, M.A. and Walkup, J.T. 2006. A new gene for Tourette's syndrome: a window into causal mechanisms? Trends Genet. 22: 291-293.
5. Bugge, M., et al. 2007. Non-disjunction of chromosome 13. Hum. Mol. Genet. 16: 2004-2010.
6. Hsu, H.F. and Hou, J.W. 2007. Variable expressivity in Patau syndrome is not all related to trisomy 13 mosaicism. Am. J. Med. Genet. A 143A: 1739-1748.
7. Hall, H.E., et al. 2007. The origin of trisomy 13. Am. J. Med. Genet. A 143A: 2242-2248.
8. Hassler, M., et al. 2007. Crystal structure of the retinoblastoma protein N domain provides insight into tumor suppression, ligand interaction and holoprotein architecture. Mol. Cell 28: 371-385.

CHROMOSOMAL LOCATION

Genetic locus: AMER2 (human) mapping to 13q12.13.

SOURCE

FAM123A (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 94-108 near the N-terminus of FAM123A 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.

Blocking peptide available for competition studies, sc-515471 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

FAM123A (B-2) is recommended for detection of FAM123A 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 FAM123A siRNA (h): sc-105346, FAM123A shRNA Plasmid (h): sc-105346-SH and FAM123A shRNA (h) Lentiviral Particles: sc-105346-V.

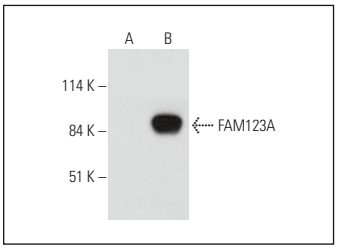
Molecular Weight of FAM123A: 70/58 kDa.

Positive Controls: FAM123A (h): 293T Lysate: sc-115267.

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



FAM123A (B-2): sc-515471. Western blot analysis of FAM123A expression in non-transfected: sc-117752 (**A**) and human FAM123A transfected: sc-115267 (**B**) 293T 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.