SANTA CRUZ BIOTECHNOLOGY, INC.

FRAT1 (C-17): sc-8444

BACKGROUND

FRAT1 and FRAT2 were originally characterized as proteins frequently rearranged in advanced T cell lymphoma, and they have since been identified as proto-oncogenes involved in tumorigenesis. These proteins share significant homology with the *Xenopus* glycogen synthase kinase-3 (xGSK-3) binding protein, which is designated GBP and is essential for the formation of the dorsal-ventral axis during embryonic development. Establishment of these embryonic axes is mediated by the Wnt intracellular signaling pathway. Wnt signaling is regulated in part by the activity of GSK-3, which phosphorylates and thereby facilitates the degradation of β-catenin. GBP binds to GSK-3 and inhibits this phosphorylation, resulting in the accumulation of β-catenin and the subsequent transcription of Wnt target genes. Like GBP, FRAT2 has been shown to bind xGSK-3, suggesting that FRAT1 and FRAT2 may be GSK-3 regulatory proteins.

REFERENCES

1. Yost, C., et al. 1996. The axis-inducing activity, stability, and subcellular distribution of β-catenin is regulated in *Xenopus* embryos by glycogen synthase kinase 3. Genes Dev. 10: 1443-1454.
2. Jonkers, J., et al. 1997. Activation of a novel proto-oncogene, Frat1, contributes to progression of mouse T-cell lymphomas. EMBO J. 16: 441-450.
3. Aberle, H., et al. 1997. β-catenin is a target for the ubiquitin-proteasome pathway. EMBO J. 16: 3797-3804.
4. Yost, C., et al. 1998. GBP, an inhibitor of GSK-3, is implicated in *Xenopus* development and oncogenesis. Cell 93: 1031-1041.
5. Sumoy, L., et al. 1999. Conservation of intracellular Wnt signaling components in dorsal-ventral axis formation in zebrafish. Dev. Genes Evol. 209: 48-58.
6. Li, L., et al. 1999. Axin and Frat1 interact with dvl and GSK, bridging Dvl to GSK in Wnt-mediated regulation of LEF-1. EMBO J. 18: 4233-4240.

CHROMOSOMAL LOCATION

Genetic locus: FRAT1 (human) mapping to 10q24.1; Frat1 (mouse) mapping to 19 C3.

SOURCE

FRAT1 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of FRAT1 of human origin.

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-8444 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

FRAT1 (C-17) is recommended for detection of FRAT1 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).

Suitable for use as control antibody for FRAT1 siRNA (h): sc-105373, FRAT1 siRNA (m): sc-145237, FRAT1 shRNA Plasmid (h): sc-105373-SH, FRAT1 shRNA Plasmid (m): sc-145237-SH, FRAT1 shRNA (h) Lentiviral Particles: sc-105373-V and FRAT1 shRNA (m) Lentiviral Particles: sc-145237-V.

Molecular Weight of FRAT1: 29 kDa.

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.

RESEARCH USE

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

PROTOCOLS

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