BACKGROUND

Rif1 (Rap1-interacting factor 1) is the 2,472 amino acid homolog of the yeast Rap1 protein and is highly expressed in testes, with increased expression in late G2/S phase of the cell cycle. Localized to midzone microtubules during anaphase and to condensed chromosomes during telophase, Rif1 is required for DNA-damage-induced, checkpoint-mediated cell cycle arrest during S phase. The yeast homolog of Rif1 functions by localizing to DNA-damaged foci and binding to uncapped telomeres, thereby inhibiting telomere elongation and slowing cell cycle progression. Human Rif1, unlike its yeast counterpart, does not participate in telomere maintenance or capping, but rather is thought to function at the microtubule midzone in a more global DNA damage response pathway. Rif1 may act by controlling transcription of telomere-related genes or by controlling resolution of twisted chromosomes by topoisomerase II (TopoII). Two isoforms of Rif1 exist due to alternative splicing events.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: RIF1 (human) mapping to 2q23.3.

SOURCE

Rif1 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 24-45 at the N-terminus of Rif1 of human origin.

PRODUCT

Each vial contains 200 µg IgM 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-515573 P, (100 µg peptide in 0.5 ml PBS containing <0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Rif1 (B-3) is recommended for detection of Rif1 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 Rif1 siRNA (h): sc-62944, Rif1 shRNA Plasmid (h): sc-62944-SH and Rif1 shRNA (h) Lentiviral Particles: sc-62944-V.

Molecular Weight of Rif1: 274 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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

SELECT PRODUCT CITATIONS


STORAGE

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