**BACKGROUND**

The PIK-related kinases include Atr, DNA-PKcs, and mTOR. The Atr gene is mutated in the autosomal recessive disorder ataxia telangiectasia (AT) that is characterized by cerebellar degeneration and the appearance of dilated blood vessels in the conjunctivae of the eyes. AT cells are hypersensitive to ionizing radiation, impaired in mediating the inhibition of DNA synthesis and they display delays in p53 induction. DNA-PK is a heterotrimeric DNA binding enzyme that is composed of a large subunit, DNA-PKcs, and two smaller subunits collectively known as Ku. The loss of DNA-PK leads to defects in DSB repair and VDJ recombination. mTOR can autophosphorylate on serine and bind to rapamycin FKBP. mTOR is also an upstream regulator of S6 kinase and has been implicated in the regulation of p27 and p21 expression. mTOR autophosphorylates at Ser 2481 under translationally repressive conditions. Phosphorylation of mTOR at Ser 2448 is mediated by p70 S6 kinase.

**SOURCE**

p-mTOR (296.Ser 2481) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 2481 phosphorylated mTOR of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2b kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p-mTOR (296.Ser 2481) is available conjugated to agarose (sc-293132 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-293132 HRP), 200 µg/ml, for WB, IHC (including paraffin-embedded sections), and immunoprecipitation (1-2 µg per 50-100 µg of total protein (1 ml of cell lysate), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:300).

Suitable for use as control antibody for mTOR siRNA (h): sc-35409, mTOR siRNA (m): sc-35410, mTOR shRNA Plasmid (h): sc-35409-SH, FRAP shRNA Plasmid (m): sc-35410-SH, mTOR shRNA (h) Lentiviral Particles: sc-35409-V and FRAP shRNA (m) Lentiviral Particles: sc-35409-V.

Molecular Weight of p-mTOR: 220 kDa.

Positive Controls: Jurkat + Calyculin A cell lysate: sc-2277, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

**APPLICATIONS**

p-mTOR (296.Ser 2481) is recommended for detection of Ser 2481 phosphorylated mTOR 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:300).

Suitable for use as control antibody for mTOR siRNA (h): sc-35409, mTOR siRNA (m): sc-35410, mTOR shRNA Plasmid (h): sc-35409-SH, FRAP shRNA Plasmid (m): sc-35410-SH, mTOR shRNA (h) Lentiviral Particles: sc-35409-V and FRAP shRNA (m) Lentiviral Particles: sc-35409-V.

**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 for detailed protocols and support products.

**SELECT PRODUCT CITATIONS**


