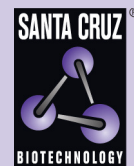


mTOR (H-266): sc-8319



The Power to Question

BACKGROUND

The PIK-related kinases include Atm, DNA-PK_{CS} and mTOR. The Atm 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-PK_{CS}, and two smaller subunits collectively known as Ku. The loss of DNA-PK leads to defects in DSB repair and V(D)J recombination. mTOR, also known as FRAP, 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 Ser2481 under translationally repressive conditions. Phosphorylation of mTOR at Ser2448 is mediated by p70S6 kinase.

CHROMOSOMAL LOCATION

Genetic locus: MTOR (human) mapping to 1p36.22; Mtor (mouse) mapping to 4 E2.

SOURCE

mTOR (H-266) is a rabbit polyclonal antibody raised against amino acids 1920-2185 mapping within an internal region of mTOR (FKBP-rapamycin associated protein) 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.

APPLICATIONS

mTOR (H-266) is recommended for detection of 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 1:30-1:3000).

mTOR (H-266) is also recommended for detection of mTOR in additional species, including equine, canine, bovine, porcine and avian.

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

Molecular Weight (predicted) of mTOR: 289 kDa.

Molecular Weight (observed) of mTOR: 211-245 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or MOLT-4 cell lysate: sc-2233.

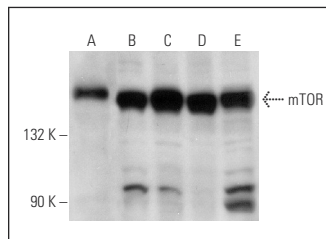
RESEARCH USE

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

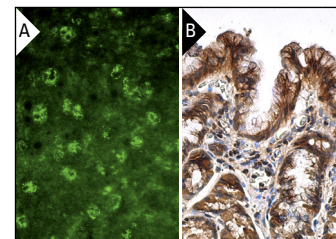
STORAGE

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

DATA



mTOR (H-266): sc-8319. Western blot analysis of mTOR expression in 293T (A), HeLa (B), Jurkat (C), MOLT-4 (D) and K-562 (E) whole cell lysates.



mTOR (H-266): sc-8319. Immunofluorescence staining of normal mouse liver frozen section showing cytoplasmic and nuclear staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing cytoplasmic and nuclear staining of glandular and interstitial cells (B).

SELECT PRODUCT CITATIONS

1. Castedo, M., et al. 2002. Sequential involvement of Cdk1, mTOR and p53 in apoptosis induced by the HIV-1 envelope. *EMBO J.* 21: 4070-4080.
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3. Wang, S., 2013. Transient activation of autophagy via Sox2-mediated suppression of mTOR is an important early step in reprogramming to pluripotency. *Cell Stem Cell* 13: 617-625.
4. Iresjö, B.M., 2013. Liver-derived endocrine IGF-I is not critical for activation of skeletal muscle protein synthesis following oral feeding. *BMC Physiol.* 13: 7.
5. Liu, N., et al. 2014. miR-942 decreases TRAIL-induced apoptosis through ISG12a downregulation and is regulated by AKT. *Oncotarget* 5: 4959-4971.
6. Gao, J., 2014. Induction of apoptosis by total flavonoids from *Scutellaria barb* D. Don in human hepatocarcinoma MHCC97-H cells via the mitochondrial pathway. *Tumour Biol.* 35: 2549-2559.
7. García-Macia, M., 2014. Autophagic and proteolytic processes in the Harderian gland are modulated during the estrous cycle. *Histochem. Cell Biol.* 141: 519-529.
8. Pereira, J.K., et al. 2015. Molecular effects of the phosphatidylinositol-3-kinase inhibitor NVP-BKM120 on T and B-cell acute lymphoblastic leukaemia. *Eur. J. Cancer* 51: 2076-2085.



Try **mTOR (55.42): sc-293089** or **mTOR (30): sc-136269**, our highly recommended monoclonal alternatives to mTOR (H-266). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **mTOR (55.42): sc-293089**.