SANTA CRUZ BIOTECHNOLOGY, INC.

REDD-2 (N-17): sc-160718

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

REDD-2 (regulated in development and DNA damage response 2), also designated Rtp801L or DDIT4L (DNA-damage-inducible transcript 4-like), is a 193 amino acid cytoplasmic protein belonging to the DDIT4 family and is predominantly expressed in skeletal muscle. Considered a stress-inducted protein, REDD-2 is a negative regulator of the mTOR (mammalian target of rapamycin) pathway. mTOR is a serine/threonine kinase that plays an essential role in cell growth control and is an important regulator of skeletal muscle size. Highly expressed in human atherosclerotic lesions and macrophages, REDD-2 mediates monocyte cell death through reduction of Trx (thioredoxin-1) expression. REDD-2 expression in macrophages increases oxidized LDL (oxLDL)-induced cell death, suggesting that REDD-2 may play a critical role in arterial pathology.

REFERENCES

1. Cuaz-Perolin, C., et al. 2004. REDD2 gene is upregulated by modified LDL or hypoxia and mediates human macrophage cell death. Arterioscler. Thromb. Vasc. Biol. 24: 1830-1835.
2. Brafman, A., et al. 2004. Inhibition of oxygen-induced retinopathy in RTP801-deficient mice. Invest. Ophthalmol. Vis. Sci. 45: 3796-3805.
3. Corradetti, M.N., et al. 2005. The stress-inducted proteins RTP801 and RTP801L are negative regulators of the mammalian target of rapamycin pathway. J. Biol. Chem. 280: 9769-9772.
4. Furuta, J., et al. 2006. Silencing of Peroxiredoxin 2 and aberrant methylation of 33 CpG islands in putative promoter regions in human malignant melanomas. Cancer Res. 66: 6080-6086.
5. Malagelada, C., et al. 2006. RTP801 is elevated in Parkinson brain substantia nigral neurons and mediates death in cellular models of Parkinson's disease by a mechanism involving mammalian target of rapamycin inactivation. J. Neurosci. 26: 9996-10005.
6. Abe, M., et al. 2008. Identification of genes targeted by CpG island methylator phenotype in neuroblastomas, and their possible integrative involvement in poor prognosis. Oncology 74: 50-60.
7. Miyazaki, M. and Esser, K.A. 2009. REDD2 is enriched in skeletal muscle and inhibits mTOR signaling in response to leucine and stretch. Am. J. Physiol., Cell Physiol. 296: C583-C592.

CHROMOSOMAL LOCATION

Genetic locus: DDIT4L (human) mapping to 4q24; Ddit4l (mouse) mapping to 3 G3.

SOURCE

REDD-2 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of REDD-2 of human origin.

STORAGE

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

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-160718 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

REDD-2 (N-17) is recommended for detection of REDD-2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with REDD-1.

REDD-2 (N-17) is also recommended for detection of REDD-2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for REDD-2 siRNA (h): sc-88956, REDD-2 siRNA (m): sc-152789, REDD-2 shRNA Plasmid (h): sc-88956-SH, REDD-2 shRNA Plasmid (m): sc-152789-SH, REDD-2 shRNA (h) Lentiviral Particles: sc-88956-V and REDD-2 shRNA (m) Lentiviral Particles: sc-152789-V.

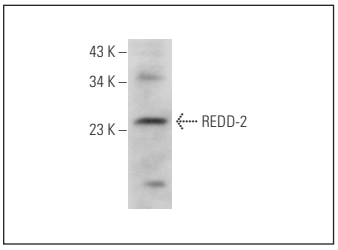
Molecular Weight of REDD-2: 22 kDa.

Positive Controls: WI-38 Whole Cell Lysate : sc-364260.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



REDD-2 (N-17): sc-160718. Western blot analysis of REDD-2 expression in WI-38 whole cell lysate.

RESEARCH USE

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