SANTA CRUZ BIOTECHNOLOGY, INC.

REDD-1 (N-20): sc-46034

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

REDD-1, also designated DNA-damage-inducible transcript 4 (dig2) or RTP801, is thought to function in the regulation of reactive oxygen species (ROS). REDD-1 expression has also been linked to apoptosis, Aβ toxicity and the pathogenesis of ischemic diseases. As an HIF-1-responsive gene, REDD-1 exhibits strong hypoxia-dependent upregulation in ischemic cells of neuronal origin. In response to stress due to DNA damage and glucocorticoid treatment, REDD-1 is upregulated at the transcriptional level. REDD-1 negatively regulates the mammalian target of Rapamycin, a serine/threonine kinase often referred to as mTOR. It is crucial in the coupling of extra- and intracellular cues to mTOR regulation. The absence of REDD-1 is associated with the development of retinopathy, a major cause of blindness.

REFERENCES

1. Shoshani, T., et al. 2002. Identification of a novel hypoxia-inducible factor 1-responsive gene, RTP801, involved in apoptosis. Mol. Cell. Biol. 22: 2283-2293.
2. Kim, J.R., et al. 2003. Identification of amyloid β-peptide responsive genes by cDNA microarray technology: involvement of RTP801 in Aβ-peptide toxicity. Exp. Mol. Med. 35: 403-411.

CHROMOSOMAL LOCATION

Genetic locus: DDIT4 (human) mapping to 10q22.1; Ddit4 (mouse) mapping to 10 B4.

SOURCE

REDD-1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of REDD-1 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-46034 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

REDD-1 (N-20) is recommended for detection of REDD-1 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).

Suitable for use as control antibody for REDD-1 siRNA (h): sc-45806, REDD-1 siRNA (m): sc-45807, REDD-1 shRNA Plasmid (h): sc-45806-SH, REDD-1 shRNA Plasmid (m): sc-45807-SH, REDD-1 shRNA (h) Lentiviral Particles: sc-45806-V and REDD-1 shRNA (m) Lentiviral Particles: sc-45807-V.

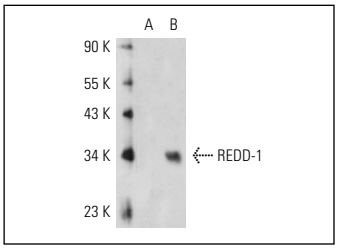
Molecular Weight of REDD-1: 34 kDa.

Positive Controls: REDD-1 (h): 293 Lysate: sc-111360.

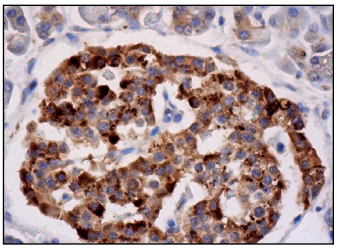
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



REDD-1 (N-20): sc-46034. Western blot analysis of REDD-1 expression in non-transfected: sc-110760 (**A**) and human REDD-1 transfected: sc-111360 (**B**) 293 whole cell lysates.



REDD-1 (N-20): sc-46034. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells and Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Chaillou, T., et al. 2012. Hypoxia transiently affects skeletal muscle hypertrophy in a functional overload model. Am. J. Physiol. Regul. Integr. Comp. Physiol. 302: R643-R654.

STORAGE

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

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.