SANTA CRUZ BIOTECHNOLOGY, INC.

REDD-1 (B-3): sc-376671

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, Ab 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 (mTOR), a serine/threonine kinase often referred to as FRAP. It is crucial in the coupling of extra- and intracellular cues to FRAP regulation. The absence of REDD-1 is associated with the development of retinopathy, a major cause of blindness.

CHROMOSOMAL LOCATION

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

SOURCE

REDD-1 (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-59 near the N-terminus of REDD-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

REDD-1 (B-3) is available conjugated to agarose (sc-376671 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376671 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376671 PE), fluorescein (sc-376671 FITC), Alexa Fluor® 488 (sc-376671 AF488), Alexa Fluor® 546 (sc-376671 AF546), Alexa Fluor® 594 (sc-376671 AF594) or Alexa Fluor® 647 (sc-376671 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376671 AF680) or Alexa Fluor® 790 (sc-376671 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376671 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

REDD-1 (B-3) is recommended for detection of REDD-1 of mouse, rat and 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 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.

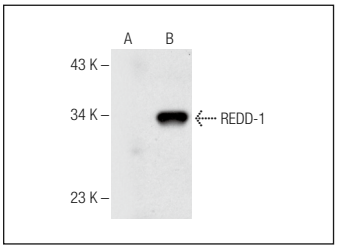
Molecular Weight of REDD-1: 34 kDa.

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

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



REDD-1 (B-3): sc-376671. 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.

SELECT PRODUCT CITATIONS

1. Reale, C., et al. 2019. A toxicogenomic approach reveals a novel gene regulatory network active in *in vitro* and *in vivo* models of thyroid carcinogenesis. Int. J. Environ. Res. Public Health 16: 122.
2. Lee, M.K., et al. 2019. Protective effect of pyropia yezoensis peptide on dexamethasone-induced myotube atrophy in C2C12 myotubes. Mar. Drugs 17: 284.
3. Chen, Q., et al. 2022. Berberine-mediated REDD-1 down-regulation ameliorates senescence of retinal pigment epithelium by interrupting the ROS-DDR positive feedback loop. Phytomedicine 104: 154181.
4. Mu, L., et al. 2022. Blocking REDD-1/TXNIP complex ameliorates HG-induced renal tubular epithelial cell apoptosis and EMT through repressing oxidative stress. Int. J. Endocrinol. 2022: 6073911.

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 for detailed protocols and support products.