

# REDD-1 (A-4): sc-271158

## 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, A $\beta$  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.

## REFERENCES

- 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.
- Kim, J.R., et al. 2003. Identification of amyloid  $\beta$ -peptide responsive genes by cDNA microarray technology: involvement of RTP801 in A $\beta$ -peptide toxicity. *Exp. Mol. Med.* 35: 403-411.
- Brugarolas, J., et al. 2004. Regulation of mTOR function in response to hypoxia by REDD-1 and the TSC1/TSC2 tumor suppressor complex. *Genes Dev.* 18: 2893-2904.
- Lee, M., et al. 2004. Sp1-dependent regulation of the RTP801 promoter and its application to hypoxia-inducible VEGF plasmid for ischemic disease. *Pharm. Res.* 21: 736-741.
- Corradetti, M.N., et al. 2005. The stress-induced proteins RTP801 and RTP801L are negative regulators of the mammalian target of Rapamycin pathway. *J. Biol. Chem.* 280: 9769-9772.

## CHROMOSOMAL LOCATION

Genetic locus: DDIT4 (human) mapping to 10q22.1.

## SOURCE

REDD-1 (A-4) is a mouse monoclonal antibody raised against amino acids 28-137 mapping within an internal region of REDD-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $\kappa$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

REDD-1 (A-4) is available conjugated to agarose (sc-271158 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271158 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271158 PE), fluorescein (sc-271158 FITC), Alexa Fluor<sup>®</sup> 488 (sc-271158 AF488), Alexa Fluor<sup>®</sup> 546 (sc-271158 AF546), Alexa Fluor<sup>®</sup> 594 (sc-271158 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-271158 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-271158 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-271158 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

REDD-1 (A-4) is recommended for detection of REDD-1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 shRNA Plasmid (h): sc-45806-SH and REDD-1 shRNA (h) Lentiviral Particles: sc-45806-V.

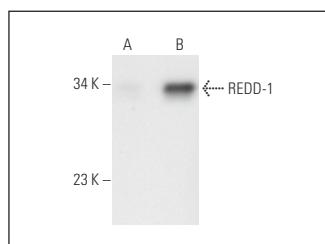
Molecular Weight of REDD-1: 34 kDa.

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

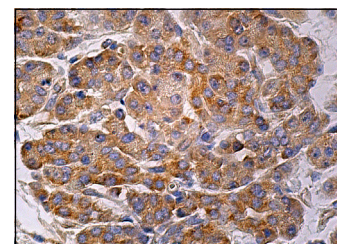
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



REDD-1 (A-4): sc-271158. 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 (A-4): sc-271158. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells.

## STORAGE

Store at 4<sup>°</sup> 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.