10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DDIT4 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6268A

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9NX09
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	25371
Antigen Region	20-49

Additional Information

Gene ID	54541
Other Names	DNA damage-inducible transcript 4 protein, HIF-1 responsive protein RTP801, Protein regulated in development and DNA damage response 1, REDD-1, DDIT4, REDD1, RTP801
Target/Specificity	This DDIT4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 20-49 amino acids from the N-terminal region of human DDIT4.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DDIT4 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DDIT4
Synonyms	REDD1, RTP801
Function	Regulates cell growth, proliferation and survival via inhibition of the activity of the mammalian target of rapamycin complex 1 (mTORC1). Inhibition of

	mTORC1 is mediated by a pathway that involves DDIT4/REDD1, AKT1, the TSC1-TSC2 complex and the GTPase RHEB. Plays an important role in responses to cellular energy levels and cellular stress, including responses to hypoxia and DNA damage. Regulates p53/TP53-mediated apoptosis in response to DNA damage via its effect on mTORC1 activity. Its role in the response to hypoxia depends on the cell type; it mediates mTORC1 inhibition in fibroblasts and thymocytes, but not in hepatocytes (By similarity). Required for mTORC1-mediated defense against viral protein synthesis and virus replication (By similarity). Inhibits neuronal differentiation and neurite outgrowth mediated by NGF via its effect on mTORC1 activity. Required for normal neuron migration during embryonic brain development. Plays a role in neuronal cell death.
Cellular Location	Mitochondrion. Cytoplasm, cytosol
Tissue Location	Broadly expressed, with lowest levels in brain, skeletal muscle and intestine. Up-regulated in substantia nigra neurons from Parkinson disease patients (at protein level)

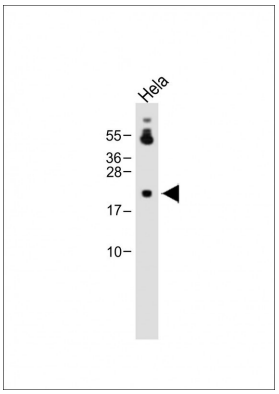
Background

REDD1 is a novel transcriptional target of p53 induced following DNA damage. During embryogenesis, REDD1 expression mirrors the tissue-specific pattern of the p53 family member p63, and TP63 null embryos show virtually no expression of REDD1, which is restored in mouse embryo fibroblasts following p63 expression. In differentiating primary keratinocytes, TP63 and REDD1 expression are coordinately downregulated, and ectopic expression of either gene inhibits in vitro differentiation. REDD1 appears to function in the regulation of reactive oxygen species (ROS); TP63 null fibroblasts have decreased ROS levels and reduced sensitivity to oxidative stress, which are both increased following ectopic expression of either TP63 or REDD1. Thus, REDD1 encodes a shared transcriptional target that implicates ROS in the p53-dependent DNA damage response and in p63-mediated regulation of epithelial differentiation.

References

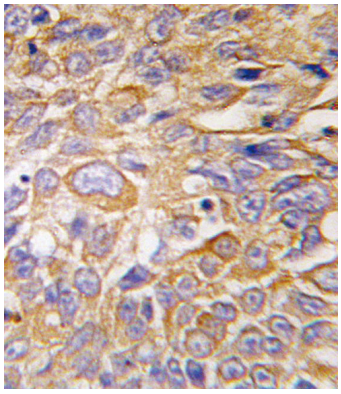
Ellisen L.W., Mol. Cell 10:995-1005(2002).
Shoshani T.,Mol. Cell. Biol. 22:2283-2293(2002).

Images



Anti-DDIT4 Antibody (N-term) at 1:2000 dilution + Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 25 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with DDIT4 antibody (N-term)(Cat.#AP6268a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use



of this antibody for immunohistochemistry; clinical relevance has not been evaluated.