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DDIT4 Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP6268b

Specification

DDIT4 Blocking Peptide (C-term) - Product Information

Primary Accession	Q9NX09
Other Accession	Q8VHZ9, Q9D3F7, Q08E62

DDIT4 Blocking Peptide (C-term) - 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
The synthetic peptide sequence is selected from aa 213-227 of HUMAN DDIT4

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DDIT4 Blocking Peptide (C-term) - 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)

DDIT4 Blocking Peptide (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

DDIT4 Blocking Peptide (C-term) - Images

DDIT4 Blocking Peptide (C-term) - 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.

DDIT4 Blocking Peptide (C-term) - References

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