

**MCTS1 Antibody (aa3-14)**  
**Rabbit Polyclonal Antibody**  
**Catalog # ALS11882****Specification**

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**MCTS1 Antibody (aa3-14) - Product Information**

Application	WB, IHC-P, E
Primary Accession	<a href="#">Q9ULC4</a>
Reactivity	Human, Mouse, Zebrafish, Pig, Chicken, Xenopus, Bovine, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	21kDa KDa
Dilution	WB~~1:1000 IHC-P~~N/A E~~N/A

**MCTS1 Antibody (aa3-14) - Additional Information****Gene ID** 28985**Other Names**

Malignant T-cell-amplified sequence 1, MCT-1, Multiple copies T-cell malignancies, MCTS1, MCT1

**Target/Specificity**

Residues 3-14[KKFDEKENVSNC] of the 20 kD MCT-1 protein.

**Reconstitution & Storage**

+4°C or -20°C, Avoid repeated freezing and thawing.

**Precautions**

MCTS1 Antibody (aa3-14) is for research use only and not for use in diagnostic or therapeutic procedures.

**MCTS1 Antibody (aa3-14) - Protein Information****Name** MCTS1**Synonyms** MCT1**Function**

Translation regulator forming a complex with DENR to promote translation reinitiation. Translation reinitiation is the process where the small ribosomal subunit remains attached to the mRNA following termination of translation of a regulatory upstream ORF (uORF), and resume scanning on the same mRNA molecule to initiate translation of a downstream ORF, usually the main ORF (mORF). The MCTS1/DENR complex is pivotal to two linked mechanisms essential for translation reinitiation. Firstly, the dissociation of deacylated tRNAs from post- termination 40S ribosomal complexes during ribosome recycling. Secondly, the recruitment in an EIF2-independent manner of

aminoacylated initiator tRNA to P site of 40S ribosomes for a new round of translation (PubMed:<a href="http://www.uniprot.org/citations/16982740" target="\_blank">16982740</a>, PubMed:<a href="http://www.uniprot.org/citations/20713520" target="\_blank">20713520</a>, PubMed:<a href="http://www.uniprot.org/citations/37875108" target="\_blank">37875108</a>). This regulatory mechanism governs the translation of more than 150 genes which translation reinitiation is MCTS1/DENR complex-dependent (PubMed:<a href="http://www.uniprot.org/citations/16982740" target="\_blank">16982740</a>, PubMed:<a href="http://www.uniprot.org/citations/20713520" target="\_blank">20713520</a>, PubMed:<a href="http://www.uniprot.org/citations/37875108" target="\_blank">37875108</a>). Consequently, modulates various unrelated biological processes including cell cycle regulation and DNA damage signaling and repair (PubMed:<a href="http://www.uniprot.org/citations/10440924" target="\_blank">10440924</a>, PubMed:<a href="http://www.uniprot.org/citations/11709712" target="\_blank">11709712</a>, PubMed:<a href="http://www.uniprot.org/citations/12637315" target="\_blank">12637315</a>, PubMed:<a href="http://www.uniprot.org/citations/15897892" target="\_blank">15897892</a>, PubMed:<a href="http://www.uniprot.org/citations/16322206" target="\_blank">16322206</a>, PubMed:<a href="http://www.uniprot.org/citations/17016429" target="\_blank">17016429</a>, PubMed:<a href="http://www.uniprot.org/citations/17416211" target="\_blank">17416211</a>, PubMed:<a href="http://www.uniprot.org/citations/9766643" target="\_blank">9766643</a>). Notably, it positively regulates interferon gamma immunity to mycobacteria by enhancing the translation of JAK2 (PubMed:<a href="http://www.uniprot.org/citations/37875108" target="\_blank">37875108</a>).

#### **Cellular Location**

Cytoplasm. Note=Nuclear relocalization after DNA damage

#### **Tissue Location**

Ubiquitous. Over-expressed in T-cell lymphoid cell lines and in non-Hodgkin lymphoma cell lines as well as in a subset of primary large B-cell lymphomas.

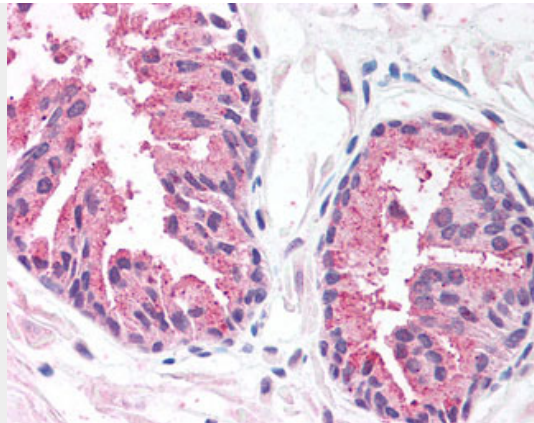
#### **MCTS1 Antibody (aa3-14) - Protocols**

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **MCTS1 Antibody (aa3-14) - Images**





Anti-MCT1 antibody IHC of human prostate.

### **MCTS1 Antibody (aa3-14) - Background**

Anti-oncogene that play a role in cell cycle regulation; decreases cell doubling time and anchorage-dependent growth; shortens the duration of G1 transit time and G1/S transition. When constitutively expressed, increases CDK4 and CDK6 kinases activity and CCND1/cyclin D1 protein level, as well as G1 cyclin/CDK complex formation. Involved in translation initiation; promotes recruitment of aminoacylated initiator tRNA to P site of 40S ribosomes. Can promote release of deacylated tRNA and mRNA from recycled 40S subunits following ABCE1-mediated dissociation of post-termination ribosomal complexes into subunits. Plays a role as translation enhancer; recruits the density-regulated protein/DENR and binds to the cap complex of the 5'-terminus of mRNAs, subsequently altering the mRNA translation profile; up-regulates protein levels of BCL2L2, TFDP1, MRE11A, CCND1 and E2F1, while mRNA levels remains constant. Hyperactivates DNA damage signaling pathway; increased gamma-irradiation-induced phosphorylation of histone H2AX, and induces damage foci formation. Increases the overall number of chromosomal abnormalities such as larger chromosomes formation and multiples chromosomal fusions when overexpressed in gamma-irradiated cells. May play a role in promoting lymphoid tumor development: lymphoid cell lines overexpressing MCTS1 exhibit increased growth rates and display increased protection against apoptosis. May contribute to the pathogenesis and progression of breast cancer via promotion of angiogenesis through the decline of inhibitory THBS1/thrombospondin-1, and inhibition of apoptosis. Involved in the process of proteasome degradation to down-regulate Tumor suppressor p53/TP53 in breast cancer cell; Positively regulates phosphorylation of MAPK1 and MAPK3. Involved in translation initiation; promotes aminoacylated initiator tRNA to P site of 40S ribosomes. Can promote release of deacylated tRNA and mRNA from recycled 40S subunits following ABCE1-mediated dissociation of post-termination ribosomal complexes into subunits.

### **MCTS1 Antibody (aa3-14) - References**

Prosniak M., et al. Cancer Res. 58:4233-4237(1998).  
Kemmer D., et al. BMC Genomics 7:48-48(2006).  
Ota T., et al. Nat. Genet. 36:40-45(2004).  
Ross M.T., et al. Nature 434:325-337(2005).  
Mural R.J., et al. Submitted (SEP-2005) to the EMBL/GenBank/DBJ databases.