

TTC5 Blocking Peptide (C-term)
Synthetic peptide
Catalog # BP20388b**Specification**

TTC5 Blocking Peptide (C-term) - Product Information

Primary Accession [Q8N0Z6](#)
Other Accession [Q0P5H9](#)

TTC5 Blocking Peptide (C-term) - Additional Information

Gene ID 91875

Other Names

Tetratricopeptide repeat protein 5, TPR repeat protein 5, Stress-responsive activator of p300, Strap, TTC5

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.

TTC5 Blocking Peptide (C-term) - Protein Information

Name TTC5 ([HGNC:19274](#))

Function

Cofactor involved in the regulation of various cellular mechanisms such as actin regulation, autophagy, chromatin regulation and DNA repair (PubMed:18451878, PubMed:31727855). In non-stress conditions, interacts with cofactor JMY in the cytoplasm which prevents JMY's actin nucleation activity and ability to activate the Arp2/3 complex. Acts as a negative regulator of nutrient stress-induced autophagy by preventing JMY's interaction with MAP1LC3B, thereby preventing autophagosome formation (By similarity). Involves in tubulin autoregulation by promoting its degradation in response to excess soluble tubulin (PubMed:31727855). To do so, associates with the active ribosome near the ribosome exit tunnel and with nascent tubulin polypeptides early during their translation, triggering tubulin mRNA- targeted degradation (PubMed:31727855). Following DNA damage, phosphorylated by DNA damage responsive protein kinases ATM and CHEK2, leading to its nuclear accumulation and stability. Nuclear TTC5/STRAP promotes the assembly of a stress-responsive p53/TP53 coactivator complex, which includes the coactivators

JMY and p300, thereby increasing p53/TP53-dependent transcription and apoptosis. Also recruits arginine methyltransferase PRMT5 to p53/TP53 when DNA is damaged, allowing PRMT5 to methylate p53/TP53. In DNA stress conditions, also prevents p53/TP53 degradation by E3 ubiquitin ligase MDM2 (By similarity). Upon heat-shock stress, forms a chromatin-associated complex with heat-shock factor 1 HSF1 and p300/EP300 to stimulate heat-shock-responsive transcription, thereby increasing cell survival (PubMed:18451878). Mitochondrial TTC5/STRAP interacts with ATP synthase subunit beta ATP5F1B which decreased ATP synthase activity and lowers mitochondrial ATP production, thereby regulating cellular respiration and mitochondrial-dependent apoptosis. Mitochondrial TTC5/STRAP also regulates p53/TP53-mediated apoptosis (By similarity).

Cellular Location

Nucleus {ECO:0000250|UniProtKB:Q99LG4}. Cytoplasm. Cytoplasmic vesicle {ECO:0000250|UniProtKB:Q99LG4}. Mitochondrion matrix {ECO:0000250|UniProtKB:Q99LG4}. Note=Phosphorylation at Ser-203 results in nuclear localization, while unphosphorylated protein localizes to the cytoplasm. Nuclear localization may be necessary for DNA damage-dependent stabilization of the protein. {ECO:0000250|UniProtKB:Q99LG4}

TTC5 Blocking Peptide (C-term) - Protocols

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

- [Blocking Peptides](#)

TTC5 Blocking Peptide (C-term) - Images

TTC5 Blocking Peptide (C-term) - Background

Adapter protein involved in p53/TP53 response that acts by regulating and mediating the assembly of multi-protein complexes. Required to facilitate the interaction between JMY and p300/EP300 and increase p53/TP53-dependent transcription and apoptosis. Prevents p53/TP53 degradation by MDM2 (By similarity).