

**TTC5 Antibody**  
**Catalog # ASC10179****Specification**

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**TTC5 Antibody - Product Information**

Application	WB, IHC-P, IF, E
Primary Accession	<a href="#">Q8N0Z6</a>
Other Accession	<a href="#">Q8N0Z6</a> , <a href="#">67462006</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	TTC5 antibody can be used for the detection of TTC5 by Western blot at 0.5 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 10 µg/mL. For immunofluorescence start at 20 µg/mL.

**TTC5 Antibody - Additional Information**Gene ID **91875****Other Names**

TTC5 Antibody: Strap, Tetratricopeptide repeat protein 5, Stress-responsive activator of p300, TPR repeat protein 5, tetratricopeptide repeat domain 5

**Target/Specificity**

TTC5;

**Reconstitution & Storage**

TTC5 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

TTC5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**TTC5 Antibody - 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:&lt;a href="http://www.uniprot.org/citations/18451878" target="\_blank"&gt;18451878&lt;/a&gt;, PubMed:&lt;a href="http://www.uniprot.org/citations/31727855" target="\_blank"&gt;31727855&lt;/a&gt;). 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:<a href="http://www.uniprot.org/citations/31727855" target="\_blank">31727855</a>). 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:<a href="http://www.uniprot.org/citations/31727855" target="\_blank">31727855</a>). 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:<a href="http://www.uniprot.org/citations/18451878" target="\_blank">18451878</a>). 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

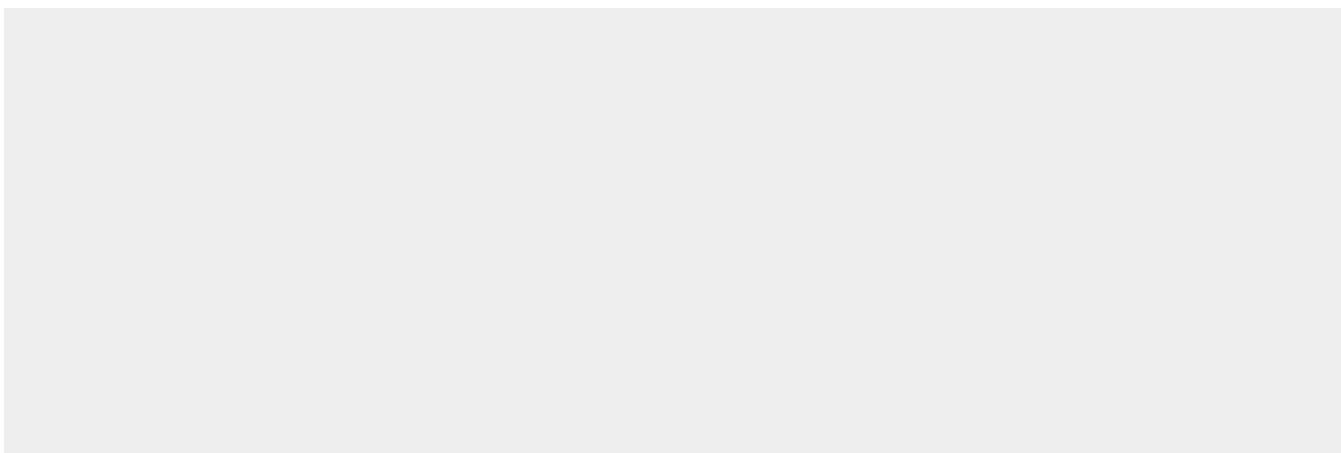
Nucleus {ECO:0000250|UniProtKB:Q99LG4}. Cytoplasm. Cytoplasmic vesicle {ECO:0000250|UniProtKB:Q99LG4}. Mitochondrion matrix {ECO:0000250|UniProtKB:Q99LG4}. Note=Phosphorylation at Ser-203 results in nuclear localization, while unphosphorylated protein localizes to the cytoplasm. Nuclear localization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

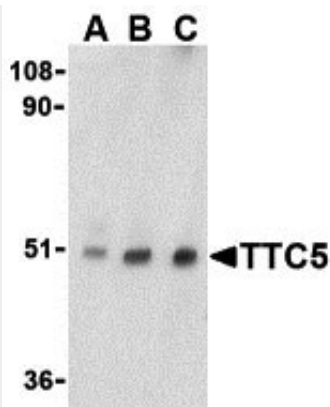
#### TTC5 Antibody - Protocols

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

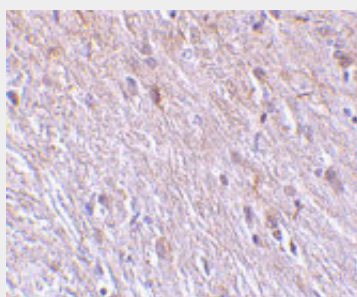
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### TTC5 Antibody - Images

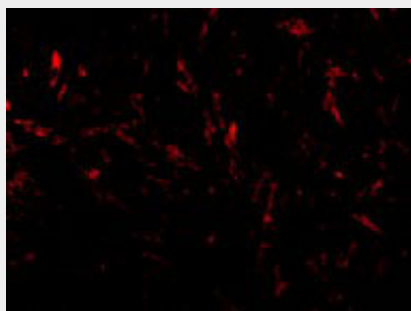




Western blot analysis of TTC5 in RAW264.7 cell lysate with TTC5 antibody at (A) 0.5, (B) 1 and (C) 2  $\mu$ g/mL.



Immunohistochemistry of TTC5 in mouse brain tissue with TTC5 antibody at 10  $\mu$ g/mL.



Immunofluorescence of TTC5 in Mouse Brain cells with TTC5 antibody at 20  $\mu$ g/mL.

### TTC5 Antibody - Background

TTC5 Antibody: Tetratricopeptide repeat protein 5 (TTC5) is a member of a diverse group of functionally distinct proteins that are characterized by containing one or more tetratricopeptide repeats. Each motif consists of two anti-parallel  $\alpha$ -helices such that tandem arrays of TPR motifs generate a right-handed helical structure with an amphipathic channel that may serve to accommodate the complementary region of a target protein. While the exact function of TTC5 remains unclear, it is thought that the TPR motifs serve to mediate protein-protein interactions such as those seen with protein chaperones HSP70 and HSP90 and some proteins involved in cell stress response signaling pathways such as protein phosphatase 5, suggesting that TTC5 may also function via protein-protein interactions mediated by its TPR motifs.

### TTC5 Antibody - References

Blatch GL and Lassle M. The tetratricopeptide repeat: a structural motif mediating protein-protein interactions. *BioEssays* 1999; 21:932-9  
Song Y and Masison DC. Independent regulation of Hsp70 and Hsp90 chaperones by

Hsp70/Hsp90-organizing protein Sti1 (Hop1). J. Biol. Chem. 2005; 280:34178-85.  
Yang J, Roe SM, Cliff MJ, et al. Molecular basis for TPR domain-mediated regulation of protein phosphatase 5. EMBO J. 2005; 24:1-10.