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TIGAR Antibody (aa220-270)

Rabbit Polyclonal Antibody

Catalog # ALS14604

Specification

TIGAR Antibody (aa220-270) - Product Information

Application	**WB, IHC**
Primary Accession	Q9NQ88
Reactivity	**Human, Monkey, Dog**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**30kDa KDa**

TIGAR Antibody (aa220-270) - Additional Information

Gene ID 57103

Other Names
Fructose-2, 6-bisphosphatase TIGAR, 3.1.3.46, TP53-induced glycolysis and apoptosis regulator, TIGAR, C12orf5

Target/Specificity
A portion of amino acids 220-270 of human TIGAR

Reconstitution & Storage
Long term: -20°C; Short term: +4°C; Avoid freeze-thaw cycles.

Precautions
TIGAR Antibody (aa220-270) is for research use only and not for use in diagnostic or therapeutic procedures.

TIGAR Antibody (aa220-270) - Protein Information

Name TIGAR {ECO:0000303|PubMed:16839880}

Synonyms C12orf5

Function
Fructose-bisphosphatase hydrolyzing fructose-2,6-bisphosphate as well as fructose-1,6-bisphosphate (PubMed:19015259). Acts as a negative regulator of glycolysis by lowering intracellular levels of fructose-2,6-bisphosphate in a p53/TP53-dependent manner, resulting in the pentose phosphate pathway (PPP) activation and NADPH production (PubMed:16839880, PubMed:22887998). Contributes to the generation of reduced glutathione to cause a decrease in intracellular reactive oxygen species (ROS) content, correlating with its ability to protect cells from oxidative or metabolic stress-induced cell death (PubMed:<a href="http://www.uniprot.org/citations/16839880"

target="_blank">16839880, PubMed:19713938, PubMed:23726973, PubMed:22887998, PubMed:23817040). Plays a role in promoting protection against cell death during hypoxia by decreasing mitochondria ROS levels in a HK2- dependent manner through a mechanism that is independent of its fructose-bisphosphatase activity (PubMed:23185017). In response to cardiac damage stress, mediates p53-induced inhibition of myocyte mitophagy through ROS levels reduction and the subsequent inactivation of BNIP3. Reduced mitophagy results in an enhanced apoptotic myocyte cell death, and exacerbates cardiac damage (By similarity). Plays a role in adult intestinal regeneration; contributes to the growth, proliferation and survival of intestinal crypts following tissue ablation (PubMed:23726973). Plays a neuroprotective role against ischemic brain damage by enhancing PPP flux and preserving mitochondria functions (By similarity). Protects glioma cells from hypoxia- and ROS- induced cell death by inhibiting glycolysis and activating mitochondrial energy metabolism and oxygen consumption in a TKTL1- dependent and p53/TP53-independent manner (PubMed:22887998). Plays a role in cancer cell survival by promoting DNA repair through activating PPP flux in a CDK5-ATM-dependent signaling pathway during hypoxia and/or genome stress-induced DNA damage responses (PubMed:25928429). Involved in intestinal tumor progression (PubMed:23726973).

Cellular Location
Cytoplasm. Nucleus Mitochondrion. Note=Translocated to the mitochondria during hypoxia in a HIF1A-dependent manner (PubMed:23185017). Colocalizes with HK2 in the mitochondria during hypoxia (PubMed:23185017). Translocated to the nucleus during hypoxia and/or genome stress-induced DNA damage responses in cancer cells (PubMed:25928429). Translocation to the mitochondria is enhanced in ischemic cortex after reperfusion and/or during oxygen and glucose deprivation (OGD)/reoxygenation insult in primary neurons (By similarity). {ECO:0000250|UniProtKB:Q8BZA9, ECO:0000269|PubMed:23185017, ECO:0000269|PubMed:25928429}

Tissue Location
Expressed in the brain (PubMed:22887998). Expressed in breast tumors (PubMed:21820150). Expressed in glioblastomas (PubMed:22887998).

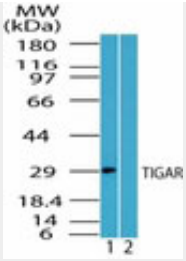
TIGAR Antibody (aa220-270) - Protocols

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

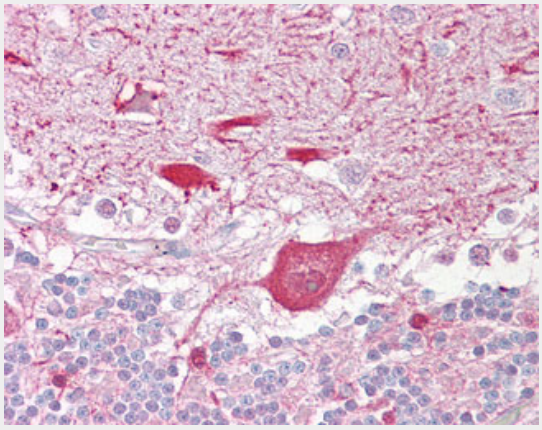
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

TIGAR Antibody (aa220-270) - Images

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Western blot of human TIGAR in MCF7 cell lysate in the 1) absence and 2) presence of immunizing...



Anti-C12orf5 / TIGAR antibody IHC of human brain, cerebellum.

TIGAR Antibody (aa220-270) - Background

Fructose-bisphosphatase hydrolyzing fructose-2,6- bisphosphate as well as fructose-1,6-bisphosphate. Inhibits glycolysis by reducing cellular levels of fructose-2,6-bisphosphate. May protect cells against reactive oxygen species and against apoptosis induced by tp53.

TIGAR Antibody (aa220-270) - References

White K.E.,et al.Nat. Genet. 26:345-348(2000).
Cheng J.,et al.Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Bensaad K.,et al.Cell 126:107-120(2006).