Datasheet for ABIN2830406

TIGAR Protein (TAT tag)

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Overview

Quantity:	100 µg
Target:	TIGAR
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Purification tag / Conjugate:	This TIGAR protein is labelled with TAT tag.
Application:	Functional Studies (Func)

Product Details

Sequence:	MARFALTVVR HGETRFNKEK IIQGQGVDEP LSETGFKQAA AAGIFLNNVK FTHAFSSDLM RTKQTMHGIL ERSKFCKDMT VKYDSRLRER KYGVVEGKAL SELRAMAKAA REECPVFTPP GGETLDQVKM RGIDFFEFLC QLILKEADQK EQFSQGSPSN CLETSLAEIF PLGKNHSSKV NSDSGIPGLA ASVLVVSHGA YMRSLFDYFL TDLKCSLPAT LSRSELMSVT PNTGMSLFII NFEEGREVKP TVQCICMNLQ DHLNGLTETR GGYGRKKRRQ
Characteristics:	Biological Activity: Fully biologically active when compared to standard. The biological activity determined by its ability to protect U2OS cells from apoptosis induced by hydrogen peroxide is in a concentration range of 0.1-5.0 µg/mL, after pretreating with rHuTIGAR-TAT for
Purity:	>96 % as determined by SDS-PAGE and HPLC.
Sterility:	0.2 µm filtered

Target Details

Target:	TIGAR
Alternative Name:	TIGAR (TIGAR Products)
Background:	Relevance: 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: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). {ECO:0000250|UniProtKB:Q8BZA9, ECO:0000269|PubMed:16839880, ECO:0000269|PubMed:19015259, ECO:0000269|PubMed:19713938, ECO:0000269|PubMed:22887998, ECO:0000269|PubMed:23185017, ECO:0000269|PubMed:23726973, ECO:0000269|PubMed:23817040, ECO:0000269|PubMed:25928429}. Synonyms: EC 3.1.3.46, TP53-induced glycolysis regulatory phosphatase
Molecular Weight:	31.7 kDa
UniProt:	Q9NQ88
Pathways:	Warburg Effect

Application Details

Restrictions:	For Research Use only

Handling

Format:	Lyophilized
Buffer:	30 % Acetonitrile, 0.1 % TFA
Storage:	-20 °C