Recombinant Mouse Tigar Protein, Myc/DDK-tagged

Cat. No. Tigar-6428M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length Trp53 induced glycolysis regulatory phosphatase (Tigar), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Fructose-bisphosphatase hydrolyzing fructose-2,6-bisphosphate as well as fructose-1,6-bisphosphate. 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. 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. 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. 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. Plays a role in adult intestinal regeneration; contributes to the growth, proliferation and survival of intestinal crypts following tissue ablation. Plays a neuroprotective role against ischemic brain damage by enhancing PPP flux and preserving mitochondria functions. Protects glioma cells from hypoxia- and ROS-induced cell death by inhibiting glycolysis and activating

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	mitochondrial energy metabolism and oxygen consumption in a TKTL1-dependent and p53/TP53-independent manner. 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. Involved in intestinal tumor progression.
Molecular Mass	29.6 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 μg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Tigar Trp53 induced glycolysis regulatory phosphatase [Mus musculus (house mouse)]
Official Symbol	Tigar
Synonyms	Tigar; Trp53 induced glycolysis regulatory phosphatase; Ti; C79710; C85509; AA793651; AI595337; 9630033F20Rik; fructose-2,6-bisphosphatase TIGAR; TP53-induced glycolysis and apoptosis regulator; TP53-induced glycolysis regulatory phosphatase; Trp53 induced glycolysis repulatory phosphatase; probable fructose-2,6-bisphosphatase TIGAR; EC 3.1.3.46

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Gene ID	319801
mRNA Refseq	NM_177003
Protein Refseq	NP_795977
UniProt ID	Q8BZA9

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