Human TIGAR/C12orf5 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF7629

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TIGAR/C12orf5 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human TIGAR/C12orf5 Ala2-Arg270 Accession # Q9NQ88
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

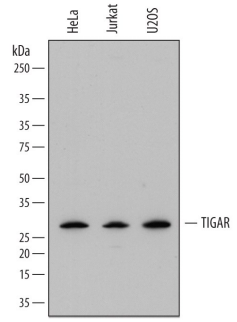
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below

DATA

Western Blot



Detection of Human TIGAR/C12orf5 by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line, Jurkat human acute T cell leukemia cell line, and U2OS human osteosarcoma cell line. PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human TIGAR/C12orf5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7629) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for TIGAR/C12orf5 at approximately 30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

TIGAR (TP53-Inducible Glycolysis and Apoptosis Regulator; also C12orf5) is a 29-30 kDa member of the phosphoglycerate mutase family of molecules. TIGAR is likely widely expressed, and serves as a target of p53 activity. Cellular glucose is normally converted into Glu-6-P. This compound can either be converted into Fru-6-P for use in ATP production, or directed into the pentose phosphate to create NADPH. If Fru-6-P is formed, it can be acted upon by either PFK1 or PFK2. PFK1 creates Fru-1,6-P2, which is subsequently broken down into pyruvate for use in the Krebs cycle. PFK2 creates Fru-2,6-P2, which is not an energy source but a regulator that promotes the activity of PFK1. TIGAR dephosphorylates Fru-2,6-P2, creating Fru-6-P. This both inhibits PFK1 activity, and drives the system backwards, recreating Glu-6-P which enters the pentose phosphate shunt and generates NADPH. p53 induces TIGAR synthesis, with a resulting increase in NADPH. NADPH increases glutathione which neutralizes ROS, and blocks activation of caspase-2. The emphasis away from energy production also leads to the activation of other pathways that produce molecules involved in DNA repair. Human TIGAR is 270 amino acids (aa) in length. It contains one histidine phosphatase domain (aa 6-90) plus two utilized phosphorylation sites. There is one potential alternative start site at Met60. Full-length human TIGAR shares 72% aa sequence identity with mouse TIGAR.

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