

TIGAR (M-209): sc-67273

BACKGROUND

TIGAR (TP53 (tumor protein 53)-induced glycolysis and apoptosis regulator), also known as C12orf5, is a 270 amino acid protein induced by the p53 tumor suppressor pathway that functions to protect against oxidative stress. TIGAR shares sequence similarity with the bisphosphate domain of the fructose-2,6-bisphosphate degrading enzyme (fructose bisphosphatase or FBPase) of the glycolysis pathway and can thus lower the intracellular levels of fructose-2,6-bisphosphate. TIGAR specifically functions to block glycolysis, leading the pathway to the pentose phosphate shunt and decreasing the intracellular concentration of reactive oxygen species. This suggests a role for TIGAR in protecting cells from reactive oxygen species that can be DNA damaging and lead to apoptosis.

REFERENCES

- Schneider, A., et al. 2002. Hereditary pancreatitis: a model for inflammatory diseases of the pancreas. *Best Pract. Res. Clin. Gastroenterol.* 16: 347-363.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610775. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Jen, K.Y., et al. 2005. Identification of novel p53 target genes in ionizing radiation response. *Cancer Res.* 65: 7666-7673.
- Corcoran, C.A., et al. 2006. The regulation of energy generating metabolic pathways by p53. *Cancer Biol. Ther.* 5: 1610-1613.
- Green, D.R., et al. 2006. p53 and metabolism: Inside the TIGAR. *Cell* 126: 30-32.
- Bensaad, K., et al. 2006. TIGAR, a p53-inducible regulator of glycolysis and apoptosis. *Cell* 126: 107-120.
- Zoller, H., et al. 2007. CFTR gene mutations in pancreatitis: frequency and clinical manifestations in an Austrian patient cohort. *Wien. Klin. Wochenschr.* 119: 527-533.

CHROMOSOMAL LOCATION

Genetic locus: C12orf5 (human) mapping to 12p13.32; 9630033F20Rik (mouse) mapping to 6 F3.

SOURCE

TIGAR (M-209) is a rabbit polyclonal antibody raised against amino acids 61-269 mapping at the C-terminus of TIGAR of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

TIGAR (M-209) is recommended for detection of TIGAR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TIGAR siRNA (h): sc-76662, TIGAR siRNA (m): sc-76663, TIGAR shRNA Plasmid (h): sc-76662-SH, TIGAR shRNA Plasmid (m): sc-76663-SH, TIGAR shRNA (h) Lentiviral Particles: sc-76662-V and TIGAR shRNA (m) Lentiviral Particles: sc-76663-V.

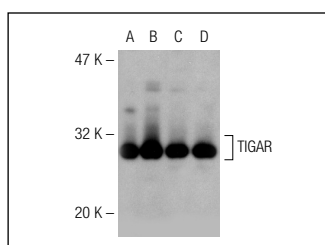
Molecular Weight of TIGAR: 30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

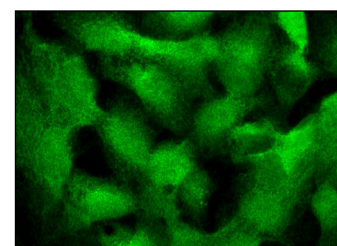
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TIGAR (M-209): sc-67273. Western blot analysis of TIGAR expression in Jurkat (A), HeLa (B), Hep G2 (C) and Saos-2 (D) whole cell lysates.



TIGAR (M-209): sc-67273. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Bogazzi, F., et al. 2013. Growth hormone is necessary for the p53-mediated obesity-induced insulin resistance in male C57BL/6JxCBA mice. *Endocrinology*. E-published.

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Try **TIGAR (E-2): sc-166290** or **TIGAR (E-10): sc-166291**, our highly recommended monoclonal alternatives to TIGAR (M-209).