

TIGAR (9C10): sc-101535

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. and Whitcomb, D.C. 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. and Cheung, V.G. 2005. Identification of novel p53 target genes in ionizing radiation response. *Cancer Res.* 65: 7666-7673.
- Corcoran, C.A., Huang, Y. and Sheikh, M.S. 2006. The regulation of energy generating metabolic pathways by p53. *Cancer Biol. Ther.* 5: 1610-1613.
- Green, D.R. and Chipuk, J.E. 2006. p53 and metabolism: inside the TIGAR. *Cell* 126: 30-32.
- Bensaad, K., Tsuruta, A., Selak, M.A., Vidal, M.N., Nakano, K., Bartrons, R., Gottlieb, E. and Vousden, K.H. 2006. TIGAR, a p53-inducible regulator of glycolysis and apoptosis. *Cell* 126: 107-120.
- Zoller, H., Egg, M., Graziadei, I., Creus, M., Janecke, A.R., Löffler-Ragg, J. and Vogel, W. 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.

SOURCE

TIGAR (9C10) is a mouse monoclonal antibody raised against a 15-amino acid peptide corresponding to the exon C-terminal region of TIGAR of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain 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.

APPLICATIONS

TIGAR (9C10) is recommended for detection of TIGAR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

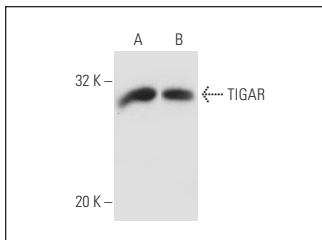
Molecular Weight of TIGAR: 30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or Hep G2 cell lysate: sc-2227.

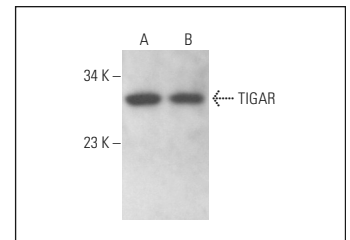
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



TIGAR (9C10): sc-101535. Western blot analysis of TIGAR expression in HeLa (A) and Hep G2 (B) whole cell lysates.



TIGAR (9C10): sc-101535. Western blot analysis of TIGAR expression in Hep G2 (A) and HL-60 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Asby, D.J., Radigois, M.G., Wilson, D.C., Cuda, F., Chai, C.L., Chen, A., Bienemann, A.S., Light, M.E., Harrowven, D.C. and Tavassoli, A. 2016. Triggering apoptosis in cancer cells with an analogue of cribostratin 6 that elevates intracellular Ros. *Org. Biomol. Chem.* 14: 9322-9330.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.