

#14751 Store at -20°C

TIGAR (D3F4A) Rabbit mAb**Cell Signaling**
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	29	Rabbit IgG	#Q9NQ88	57103

Product Usage Information**Application**Western Blotting
Immunoprecipitation**Dilution**1:1000
1:50**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

TIGAR (D3F4A) Rabbit mAb recognizes endogenous levels of total TIGAR protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro171 of human TIGAR protein.

Background

The p53 tumor suppressor protein regulates the cellular response to multiple stresses, including DNA damage and oxidative stress. Activation of p53 can lead to cell cycle arrest and DNA repair, or apoptosis (1). Activated p53 transcription factor regulates the expression of multiple genes that regulate cell metabolism and the cell cycle. One p53-inducible gene is *C12orf5*, which encodes for a fructose-2,6-bisphosphatase known as TIGAR. TP53-inducible glycolysis and apoptosis regulator (TIGAR) protects cells from oxidative stress as it negatively regulates glycolysis and reduces the production of reactive oxygen species (ROS) in cells (2,3). Research studies demonstrate that knockdown of TIGAR expression induces autophagy and apoptosis (4,5), and its expression protects cells from ROS-related cell death (6,7). Additional studies show that TIGAR promotes cell cycle arrest and supports dephosphorylation of the retinoblastoma (Rb) protein (8).

Background References

1. Meek, D.W. (2004) *DNA Repair (Amst)* 3, 1049-56.
2. Bensaad, K. et al. (2006) *Cell* 126, 107-20.
3. Lee, P. et al. (2014) *Cancer Metab* 2, 1.
4. Ye, L. et al. (2013) *Biochem Biophys Res Commun* 437, 300-6.
5. Bensaad, K. et al. (2009) *EMBO J* 28, 3015-26.
6. Wanka, C. et al. (2012) *J Biol Chem* 287, 33436-46.
7. Cheung, E.C. et al. (2012) *Proc Natl Acad Sci U S A* 109, 20491-6.
8. Madan, E. et al. (2012) *Br J Cancer* 107, 516-26.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key**WB:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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