

TRXR2/TXNRD2 (3F2-E12-F10) Mouse mAb

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications: W	Reactivity: H Mk	Sensitivity: Endogenous	MW (kDa): 56	Source/Isotype: Mouse IgG3	UniProt ID: #Q9NNW7	Entrez-Gene Id: 10587
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Product Usage Information**Application**

Western Blotting

Dilution

1:1000

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

TRXR2/TXNRD2 (3F2-E12-F10) Mouse mAb recognizes endogenous levels of total TRXR2/TXNRD2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a recombinant protein specific to the carboxy terminus of human TRXR2/TXNRD2 protein.

Background

Thioredoxin reductases are selenoproteins that are critical for maintaining cellular redox balance and eliminating reactive oxygen species (ROS) (1-4). There are three known mammalian thioredoxin reductases: TRXR1/TXNRD1 (cytosolic), TRXR2/TXNRD2 (mitochondrial), and TRXR3/TXNRD3 (testis-specific) (1). TRXR2 may function to protect against tumor necrosis factor- α (TNF- α)-mediated ROS generation (5). TRXR2 is critical for normal heart development and function (1,4). TRXR2 KO mice experience embryonic lethality, while mitochondrial dysfunction seen in heart-specific TRXR2 KO mice results in congestive heart failure (4). In humans, certain rare mutations in TRXR2 have been linked to dilated cardiomyopathy (1). A recent study in the EPIC-Heidelberg cohort shows that serum selenium levels, in concert with certain SNPs in TRXR2 and other selenoproteins, can influence prostate cancer risk (6).

Background References

1. Sibbing, D. et al. (2011) *Eur Heart J* 32, 1121-33.
2. Gasdaska, P.Y. et al. (1999) *FEBS Lett* 442, 105-11.
3. Miranda-Vizuete, A. et al. (1999) *Eur J Biochem* 261, 405-12.
4. Conrad, M. et al. (2004) *Mol Cell Biol* 24, 9414-23.
5. Hansen, J.M. et al. (2006) *Toxicol Sci* 91, 643-50.
6. Méplan, C. et al. (2012) *PLoS One* 7, e48709.

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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **Mk:** Monkey

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