Datasheet: MCA1538

BATCH NUMBER 081214

Description:	MOUSE ANTI HUMAN THIOREDOXIN
Specificity:	THIOREDOXIN
Other names:	TXN
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	2B1
Isotype:	IgG1
Quantity:	0.2 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			
Immunohistology - Frozen	▪			
Immunohistology - Paraffin	▪			
ELISA	▪			
Immunoprecipitation			▪	
Western Blotting	▪			10ug/ml - 50ug/ml

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species

Human

Species Cross Reactivity

Reacts with: Marmoset

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form

Purified IgG - liquid

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers	0.09% Sodium Azide
Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Recombinant human thioredoxin.
External Database Links	**UniProt:** P10599 Related reagents **Entrez Gene:** 7295 TXN Related reagents
Synonyms	TRDX, TRX, TRX1
RRID	AB_2212137
Specificity	**Mouse anti Human thioredoxin antibody, clone 2B1** recognizes human thioredoxin, also known as ATL-derived factor or Surface-associated sulphydryl protein. Thioredoxin is a 105 amino acid ~12kDa dithiol oxidoreductase with powerful protein disulphide oxidoreductase activity containing a single thioredoxin domain (UniProt: P10599). Thioredoxin is involved in a number of cellular processes, including activation of the transcription factor NF-KB (Kelleher *et al.* 2014). Thioredoxin is highly expressed in the glandular cells of the GI tract and uterine tissues, also activated B and T-cells (Rubartelli *et al.* 1992). Mouse anti Human thioredoxin antibody, clone 2B1 has been used successfully in a biotinylated format as a detection reagent in a thioredoxin sandwich ELISA as part of a study looking at thioredoxin levels in placental trophoblast cells (Di Trapani *et al.* 1998), a study which also used the antibody for immunoprecipitation of thioredoxin as well as detection of thioredoxin by western blotting. Mouse anti Human thioredoxin antibody, clone 2B1 is also useful for the demonstration of thioredoxin expression on formalin fixed, paraffin embedded material by immunohistochemistry (Lincoln *et al.* 2003). Clone 2B1 has also been used as a capture reagent in a sandwich ELISA for thioredoxin (Perking *et al.* 1995).
References	1. Perkins, A.V. *et al.* (1995) Immunocytochemical localization of thioredoxin in human trophoblast and decidua. Placenta. 16 (7): 635-42. 2. Lincoln, D.T. *et al.* (2003) The thioredoxin-thioredoxin reductase system: over-expression in human cancer. Anticancer Res. 23 (3B): 2425-33. 3. Stantchev, T.S. *et al.* (2012) Cell-type specific requirements for thiol/disulfide exchange during HIV-1 entry and infection. Retrovirology. 9: 97. 4. Ma, X. *et al.* (2001) Regulation of interferon and retinoic acid-induced cell death activation through thioredoxin reductase. J Biol Chem. 276: 24843-54. 5. Ramanathan, R.K. *et al.* (2007) A Phase I pharmacokinetic and pharmacodynamic

study of PX-12, a novel inhibitor of thioredoxin-1, in patients with advanced solid tumors. Clin Cancer Res. 13: 2109-14.
6. Arnold, N.B. *et al.* (2004) Thioredoxin is downstream of Smad7 in a pathway that promotes growth and suppresses cisplatin-induced apoptosis in pancreatic cancer. Cancer Res. 64: 3599-606.
7. Kinoshita, T. *et al.* (2007) Thioredoxin prevents the development and progression of elastase-induced emphysema. Biochem Biophys Res Commun. 354: 712-9.
8. Dorion, S. *et al.* (2002) Activation of the p38 signaling pathway by heat shock involves the dissociation of glutathione S-transferase Mu from Ask1. J Biol Chem. 277: 30792-7.
9. Sensi, M. *et al.* (2005) Immunogenicity without immunoselection: a mutant but functional antioxidant enzyme retained in a human metastatic melanoma and targeted by CD8(+) T cells with a memory phenotype. Cancer Res. 65: 632-40.
10. Mamoon, N.M. *et al.* (2007) Multiple cysteine residues are implicated in Janus kinase 2-mediated catalysis. Biochemistry. 46: 14810-8.
11. Agathanggelou, A. *et al.* (2003) Identification of Novel Gene Expression Targets for the Ras Association Domain Family 1 (RASSF1A) Tumor Suppressor Gene in Non-Small Cell Lung Cancer and Neuroblastoma. Cancer Res. 63: 5344-51.
12. Di Trapani, G. *et al.* (1998) Production and secretion of thioredoxin from transformed human trophoblast cells. Mol Hum Reprod. 4: 369-75.
13. Lopata, A. *et al.* (2001) Expression and localization of thioredoxin during early implantation in the marmoset monkey. Mol Hum Reprod. 7: 1159-65.
14. Wang, M.Y. *et al.* (2011) A redox switch in C-reactive protein modulates activation of endothelial cells. FASEB J. 25 (9): 3186-96.

Storage	Store at +4°C or at -20°C if preferred. This product should be stored undiluted. Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA1538 10040
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Rabbit Anti Mouse IgG (STAR13...)	HRP

Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)

North & South America Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com

Worldwide Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com

Europe Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com

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