

Catalog No. LF-MA0055

MONOCLONAL ANTIBODY



Anti-Thioredoxin 1 (3A1)

Background : Thioredoxins (Trx) are small, multi-functional proteins with oxido-reductase activity and are ubiquitous in essentially all living cells. Trx contains a redox-active disulfide/ dithiol group within the conserved Cys-Gly-Pro-Cys active site. The two cysteine residues in the conserved active centers can be oxidized to form intramolecular disulfide bonds (1). Reduction of the active site disulfide in oxidized Trx is catalyzed by Trx reductase with NADPH as the electron donor. The reduced Trx is a hydrogen donor for ribonucleotide reductase, the essential enzyme for DNA synthesis, and a potent general protein disulfide reductase with numerous functions in growth and redox regulations (2). Specific protein disulfide targets for reduction by Trx include protein disulfide -isomerase (PDI) (3) and a number of transcription factors such as p53 (4), NF-kB (5) and AP-1 (T1-151). Trx is also capable of removing H₂O₂, particularly when it is coupled with either methionine sulfoxide reductase or several isoforms of peroxiredoxins (6-7).

Immunogen : Recombinant human protein purified from *E.coli*

Host : Mouse

Clone number : 3A1

Isotype : IgG2b, k

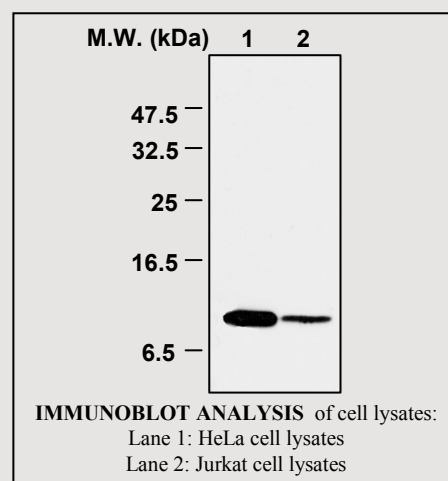
Composition : PBS containing 50% glycerol

Positive control : HeLa cell lysates

Storage : Store for 1 year at -20°C from date of shipment

Species cross reactivity

Human	Mouse	Rat
+	-	-



Applications :

ELISA
Western Blotting (1:2000)
Immunoprecipitation
Immunohistochemistry

Background Reference:

- 1) Andoh, T. et al. (2002) J.Biol.Chem. 277, 9655-9660
- 2) Arner, E. S. and Holmgren, A. (2000) Eur. J. Biochem. 267, 6102-6109.
- 3) Lundstrom, J. and Holmgren, A. (1990) J. Biol. Chem. 265, 1994-9120.
- 4) Nordberg, J. and Arner, E. S. J. (2001) Free Radic. Biol. Med. 31, 1287-1312
- 5) Matthews, J. R. et al. (1992) Nucleic Acids Res. 20, 3821-3830.
- 6) Wei, S. J. (2000) Cancer Res. 60, 6688-6695.
- 7) Chae, H. Z. (1999) Methods Enzymol. 300, 219-226

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