

# Human/Mouse/Rat Thioredoxin Reductase 1/TRXR1 Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG<sub>1</sub> Clone # 489804

Catalog Number: IC7428T

DESCRIPTION	
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects mouse Thioredoxin Reductase 1/TRXR1 in direct ELISAs and human, mouse, and rat Thioredoxin Reductase 1/TRXR1 in Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 489804
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant mouse Thioredoxin Reductase 1/TRXR1 Met1-Ile497 Accession # Q16881
<b>Conjugate</b>	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS		
<b>Please Note:</b> Optimal dilutions should be determined by each laboratory for each application. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
<b>Intracellular Staining by Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	HeLa human cervical epithelial carcinoma cell line fixed with paraformaldehyde and permeabilized with saponin

PREPARATION AND STORAGE	
<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

**BACKGROUND**

Thioredoxin reductase 1 (TRXR1) is an approximately 70 kDa member of the class-I pyridine nucleotide-disulfide oxidoreductase family. Human TRXR1 is 649 amino acids (aa) in length. Residues 151-152 constitute a propeptide that is deleted from the mature protein. Splicing variants produce five additional isoforms for human TRXR1. Isoform 2 has a 32 aa substitution for aa 107-138 and a deletion of aa 1-106. Isoform 3 has a deletion of aa 1-51 and a 49 aa substitution for aa 52-100. Isoform 4 is missing aa 1-98 and has a 3 aa substitution for aa 99-101. Isoform 5 has a deletion of aa 1-150. Residues 56-156 make up a glutaredoxin domain, and residues 520-632 constitute a pyridine nucleotide-disulphide oxidoreductase dimerization domain. In addition, there are three phosphotyrosines at positions 161, 163, and 281, and a selenocysteine at position 648. Human TRXR1 shares 74% and 70% aa sequence identity with mouse and rat TRXR1, respectively. Isoform 1 is involved in glutaredoxin activity as well as thioredoxin reductase activity, and it induces actin and tubulin polymerization, which leads to formation of cell membrane protrusions. Isoform 4 has been shown to enhance the transcriptional activity of the beta receptor only. Finally, isoform 5 mediates cell death induced by a combination of interferon-beta and retinoic acid. Isoform 1 is expressed mostly in the Leydig cells, but also in the ovary, spleen, heart, liver, kidney, and pancreas and in a number of cancer cell lines. Isoform 4 is widely expressed with highest levels in the kidney, uterus, testis, ovary, prostate, placenta, and fetal liver.

**PRODUCT SPECIFIC NOTICES**

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