

## DESCRIPTION

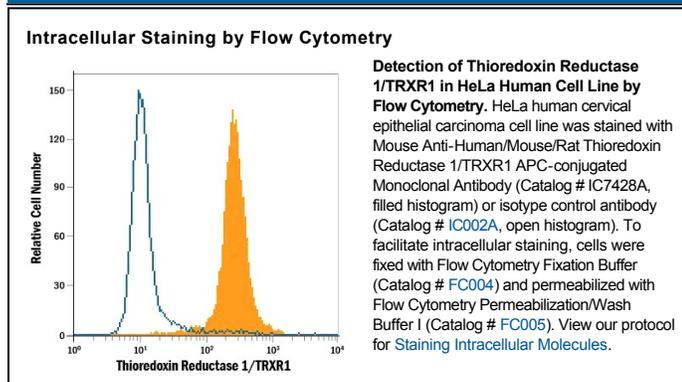
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects mouse Thioredoxin Reductase 1/TRXR1 in direct ELISAs and human, mouse, and rat Thioredoxin Reductase 1/TRXR1 in Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 489804
<b>Purification</b>	Protein A or G purified 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>	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 nm
<b>Formulation</b>	Supplied 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

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

## 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.