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# Goat Anti-Thioredoxin Reductase 1 Antibody

**Peptide-affinity purified goat antibody**
**Catalog # AF2084a**

## Specification

### Goat Anti-Thioredoxin Reductase 1 Antibody - Product Information

| | |
|---|---|
| Application | **WB, E** |
| Primary Accession | Q16881 |
| Other Accession | NP_001087240, 7296 |
| Reactivity | **Human** |
| Predicted | **Pig** |
| Host | **Goat** |
| Clonality | **Polyclonal** |
| Concentration | **100ug/200ul** |
| Isotype | **IgG** |
| Calculated MW | **70906** |

### Goat Anti-Thioredoxin Reductase 1 Antibody - Additional Information

**Gene ID** 7296

**Other Names**
Thioredoxin reductase 1, cytoplasmic, TR, 1.8.1.9, Gene associated with retinoic and interferon-induced mortality 12 protein, GRIM-12, Gene associated with retinoic and IFN-induced mortality 12 protein, KM-102-derived reductase-like factor, Thioredoxin reductase TR1, TXNRD1, GRIM12, KDRF

**Dilution**
WB~~1:1000
E~~N/A

**Format**
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**
Goat Anti-Thioredoxin Reductase 1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

### Goat Anti-Thioredoxin Reductase 1 Antibody - Protein Information

**Name** TXNRD1 (HGNC:12437)

**Synonyms** GRIM12, KDRF

**Function**
Reduces disulfideprotein thioredoxin (Trx) to its dithiol- containing form (PubMed:<a href="http://www.uniprot.org/citations/8577704" target="_blank">8577704</a>). Homodimeric flavoprotein involved in the regulation of cellular redox reactions, growth and differentiation. Contains a selenocysteine residue at the C-terminal active site that is essential for catalysis (Probable). Also has reductase activity on hydrogen peroxide (H2O2) (PubMed:<a href="http://www.uniprot.org/citations/10849437" target="_blank">10849437</a>).

**Cellular Location**
[Isoform 1]: Cytoplasm [Isoform 5]: Cytoplasm

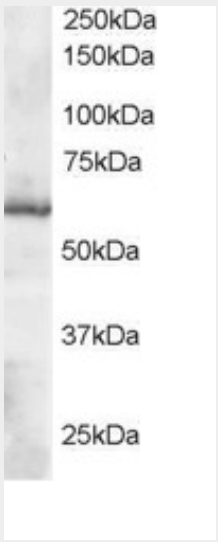
**Tissue Location**
[Isoform 1]: Expressed predominantly in Leydig cells (at protein level). Also expressed in ovary, spleen, heart, liver, kidney and pancreas and in a number of cancer cell lines

## Goat Anti-Thioredoxin Reductase 1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

## Goat Anti-Thioredoxin Reductase 1 Antibody - Images




AF2084a staining (0.1 µg/ml) of Human Placenta lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

## Goat Anti-Thioredoxin Reductase 1 Antibody - Background

This gene encodes a member of the family of pyridine nucleotide oxidoreductases. This protein reduces thioredoxins as well as other substrates, and plays a role in selenium metabolism and protection against oxidative stress. The functional enzyme is thought to be a homodimer which uses FAD as a cofactor. Each subunit contains a selenocysteine (Sec) residue which is required for catalytic activity. The selenocysteine is encoded by the UGA codon that normally signals translation termination. The 3' UTR of selenocysteine-containing genes have a common stem-loop structure, the sec insertion sequence (SECIS), that is necessary for the recognition of UGA as a Sec codon rather than as a stop signal. Alternative splicing results in several transcript variants encoding the same or different isoforms.

**Goat Anti-Thioredoxin Reductase 1 Antibody - References**

Mammalian thioredoxin reductase 1: roles in redox homoeostasis and characterization of cellular targets. Turanov AA, et al. Biochem J, 2010 Sep 1. PMID 20536427.
Thioredoxin reductase-1 mediates curcumin-induced radiosensitization of squamous carcinoma cells. Javvadi P, et al. Cancer Res, 2010 Mar 1. PMID 20160040.
Low 8-oxo-7,8-dihydro-2'-deoxyguanosine levels and influence of genetic background in an Andean population exposed to high levels of arsenic. Engstr□m KS, et al. Mutat Res, 2010 Jan 5. PMID 19896490.
Inhibition of thioredoxin reductase 1 by caveolin 1 promotes stress-induced premature senescence. Volonte D, et al. EMBO Rep, 2009 Dec. PMID 19820694.
High levels of thioredoxin reductase 1 modulate drug-specific cytotoxic efficacy. Eriksson SE, et al. Free Radic Biol Med, 2009 Dec 1. PMID 19766715.