

# Human Thioredoxin Reductase 1 ELISA Kit ab192150

SimpleStep ELISA

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### Overview

**Product name** Human Thioredoxin Reductase 1 ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
HeLa extract	4			3.77%

Inter-assay

Sample	n	Mean	SD	CV%
HeLa extract	4			7.3%

**Sample type**

Serum, Plasma, Cell culture extracts, Tissue Extracts

**Assay type**

Sandwich (quantitative)

**Sensitivity**

0.19 ng/ml

**Range**

0.39 ng/ml - 25 ng/ml

**Recovery**

Sample specific recovery

Sample type	Average %	Range
Serum	101	100% - 102%
Cell culture media	98	89% - 106%
Hep Plasma	101	100% - 102%
EDTA Plasma	104	98% - 115%
Cit plasma	99	97% - 101%
Extraction Buffer	96	84% - 108%

<b>Assay time</b>	1h 30m
<b>Assay duration</b>	One step assay
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Product overview</b>	Human Thioredoxin Reductase 1 ELISA Kit (ab192150) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Thioredoxin Reductase 1 protein in serum, tissue extracts, plasma, and cell culture extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Thioredoxin Reductase 1 with 0.14 ng/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

**Notes**

Thioredoxin Reductase 1 (TXNRD1) is a selenium-containing enzyme part of the thioredoxin system responsible for regulating oxidative stress and redox signaling via reduction of disulfide bonds. The dimer, TXNRD1, reduces thioredoxin and other substrates using NADPH and an FAD cofactor. TXNRD1's involvement in protecting against oxidative stress and injury, regulation of cellular development and growth, and various other cellular processes make it an interesting target for studies of various cancers, AIDS, and other diseases. Humans express three different isozymes of thioredoxin reductase, isoform 1 is the cytosolic form, isoform 2 is the mitochondrial form, and isoform 3 is a testes specific form. This assay is specific to isoform 1 of thioredoxin reductase.

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**Platform** Microplate

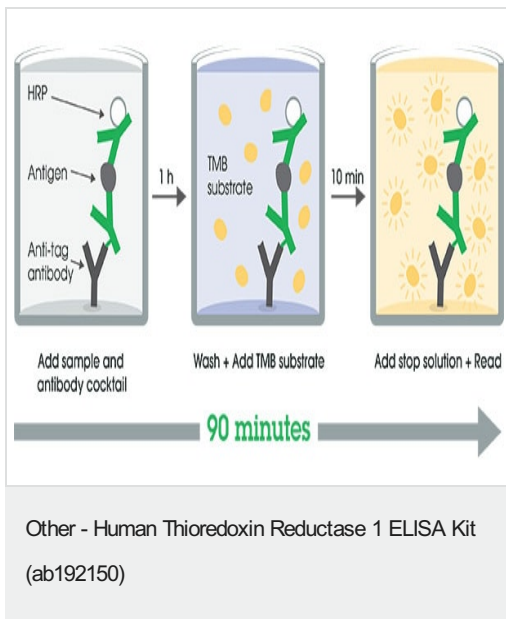
**Properties**

**Storage instructions** Please refer to protocols.

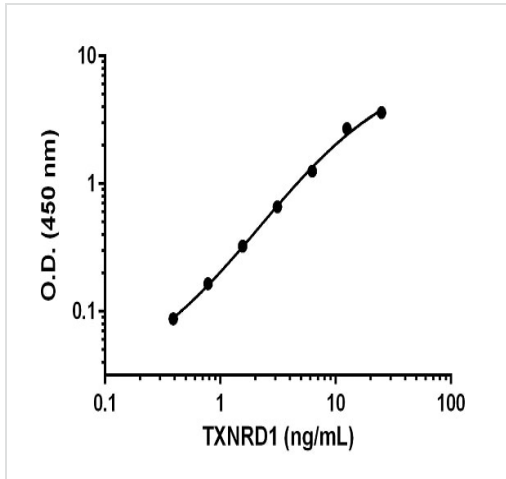
Components	1 x 96 tests
10X Human TXNRD1 Capture Antibody	1 x 600µl
10X Human TXNRD1 Detector Antibody	1 x 600µl

Components	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent CPI - HAMA Blocker (ab193969)	1 x 6ml
Human TXNRD1 Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

## Images

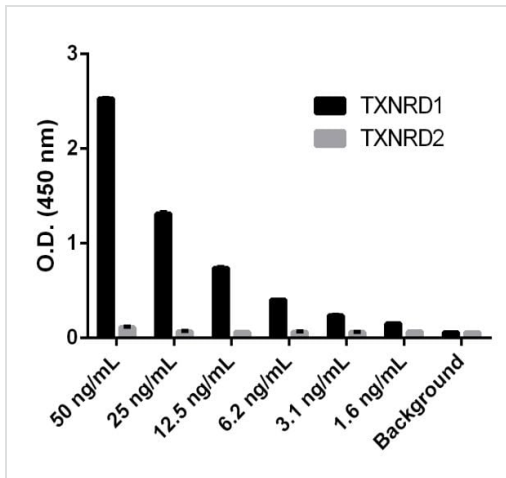


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

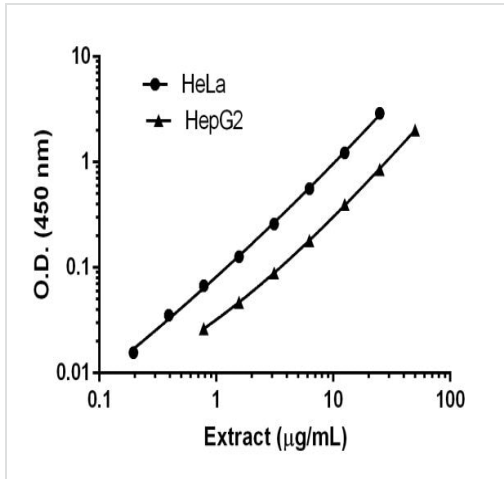


Background-subtracted data values (mean +/- SD) are graphed.

Example of Thioredoxin Reductase 1 standard curve.



The assay is shown to not react with recombinant Human Thioredoxin Reductase 2.



Background-subtracted data values (mean +/- SD, n = 2) are graphed.

Titration of HeLa and HepG2 extracts within the working range of the assay.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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