

# PRODUCT INFORMATION



## Glutaredoxin 1 (human) Polyclonal Antibody - Biotinylated

Item No. 11546

### Overview and Properties

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<b>Contents:</b>	This vial contains 50 µg of affinity-purified polyclonal antibody.
<b>Synonyms:</b>	Grx1, Grx1, Thioltransferase 1, TTF1
<b>Immunogen:</b>	Recombinant human Grx1
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥3 years
<b>Storage Buffer:</b>	PBS, pH 7.5, with 15 mM sodium azide
<b>Concentration:</b>	0.63 mg/ml
<b>Host:</b>	Goat
<b>Applications:</b>	ELISA, immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:500-1:1,000 µg/ml and 10 µg/ml for IHC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Glutaredoxin 1 (Grx1) is a thiol-disulfide oxidoreductase and member of the thioredoxin family encoded by *GLRX1* with a role in the maintenance of cellular thiol redox homeostasis.<sup>1</sup> It is ubiquitously expressed and localizes to the cytosol, nucleus, and mitochondrial intermembrane space. Grx1 is a dithiol Grx that contains two active site cysteine residues, which catalyze the deglutathionylation of protein disulfides and glutathionylated proteins to regulate redox signal transduction and repair oxidized proteins.<sup>2-4</sup> Knockdown or overexpression of *GLRX1* enhances or reduces, respectively, oxidative stress-induced apoptosis in HEK293 T cells.<sup>5</sup> *Grx1*<sup>-/-</sup> mice have increased bronchoalveolar lavage fluid (BALF) macrophage infiltration and lung glutathionylated protein levels induced by cigarette smoke compared with wild-type mice.<sup>6</sup> Grx1 levels are decreased in postmortem brain from patients with Parkinson's disease.<sup>4</sup> Cayman's Glutaredoxin 1 (human) Polyclonal Antibody - Biotinylated can be used for ELISA, immunohistochemistry (IHC), and Western blot (WB) applications.

## References

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3. Lillig, C.H., Berndt, C., Vergnolle, O., *et al.* Characterization of human glutaredoxin 2 as iron-sulfur protein: A possible role as redox sensor. *Proc. Natl. Acad. Sci. USA* **102(23)**, 8168-8173 (2005).
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6. Kuipers, I., Bracke, K.R., Brusselle, G.G., *et al.* Altered cigarette smoke-induced lung inflammation due to ablation of Grx1. *PLoS One* **7(6)**, e38984 (2012).

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