SANTA CRUZ BIOTECHNOLOGY, INC.

Glutathione reductase (H-120): sc-32886

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The Power to Question

BACKGROUND

Glutathione reductase, also designated Glutathione reductase mitochondrial precursor, GRase, GSR or GR, belongs to the class-I pyridine nucleotide-disulfide oxidoreductase family. The main function of the protein is to maintain high levels of reduced Glutathione in the cytosol. With the concomitant oxidation of NADPH, Glutathione reductase transforms oxidized Glutathione to the reduced form. Glutathione reductase, which can localize to mitochondria or to the cytoplasm, can form a disulfide-linked homodimer. The active site of the protein is a redox-active disulfide bond.

REFERENCES

1. Staal, G.E., et al. 1969. Purification and properties of an abnormal glutathione reductase from human erythrocytes. Biochim. Biophys. Acta 185: 63-69.
2. Karplus, P.A., et al. 1987. Refined structure of glutathione reductase at 1.54 A resolution. J. Mol. Biol. 195: 701-729.

CHROMOSOMAL LOCATION

Genetic locus: GSR (human) mapping to 8p12; Gsr (mouse) mapping to 8 A4.

SOURCE

Glutathione reductase (H-120) is a rabbit polyclonal antibody raised against amino acids 391-510 mapping near the C-terminus of Glutathione reductase of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Glutathione reductase (H-120) is recommended for detection of Glutathione reductase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Glutathione reductase (H-120) is also recommended for detection of Glutathione reductase in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Glutathione reductase siRNA (h): sc-44843, Glutathione reductase siRNA (m): sc-44844, Glutathione reductase shRNA Plasmid (h): sc-44843-SH, Glutathione reductase shRNA Plasmid (m): sc-44844-SH, Glutathione reductase shRNA (h) Lentiviral Particles: sc-44843-V and Glutathione reductase shRNA (m) Lentiviral Particles: sc-44844-V.

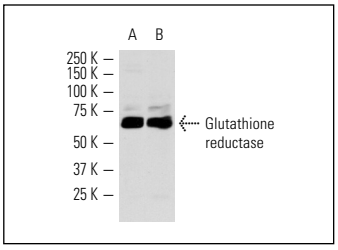
Molecular Weight of Glutathione reductase: 50-65 kDa.

Positive Controls: rat placenta extract: sc-364808, IMR-32 cell lysate: sc-2409 or mouse placenta extract: sc-364247.

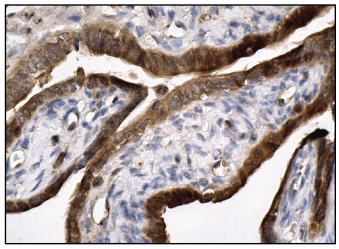
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Glutathione reductase (H-120): sc-32886. Western blot analysis of Glutathione reductase expression in rat (**A**) and mouse (**B**) placenta tissue extracts.



Glutathione reductase (H-120): sc-32886. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Randeva, H.S., et al. 2001. Expression of orexin-A and functional orexin type 2 receptors in the human adult adrenals: implications for adrenal function and energy homeostasis. J. Clin. Endocrinol. Metab. 86: 4808-4813.
2. Luyckx, V.A., et al. 2009. Accelerated senescence in kidneys of low birth weight rats after catch-up growth. Am. J. Physiol. Renal Physiol. 297: F1697-F1705.
3. Lebiedzinska, M., et al. 2009. Age-related changes in levels of p66Shc and serine 36-phosphorylated p66Shc in organs and mouse tissues. Arch. Biochem. Biophys. 486: 73-80.
4. Hama, I., et al. 2010. Simultaneous expression of glutathione, thioredoxin-1, and their reductases in nerve transected hypoglossal motor neurons of rat. Brain Res. 1306: 1-7.
5. Djordjevic, J., et al. 2010. Chronic social isolation compromises the activity of both glutathione peroxidase and catalase in hippocampus of male wistar rats. Cell. Mol. Neurobiol. 30: 693-700.
6. Djordjevic, J., et al. 2010. Chronic stress differentially affects antioxidant enzymes and modifies the acute stress response in liver of Wistar rats. Physiol. Res. 59: 729-736.
7. Chiu, P.Y., et al. 2011. Schisandrin B elicits a glutathione antioxidant response and protects against apoptosis via the redox-sensitive ERK/Nrf2 pathway in H9c2 cells. Mol. Cell. Biochem. 350: 237-250.

RESEARCH USE

For research use only, not for use in diagnostic procedures.