

GPx-7 (S-12): sc-160062

BACKGROUND

Glutathione peroxidase (GPx) enzymes are generally selenium-containing tetrameric glycoproteins that help prevent lipid peroxidation of cell membranes. GPx enzymes reduce lipid hydroperoxides to alcohols, and reduce free hydrogen peroxide to water. GPx members are among the few proteins known in higher vertebrates to contain selenocysteine, which occurs at the active site of glutathione peroxidase and is coded by the nonsense (stop) codon TGA. There are eight GPx homologs (GPx-1-8). GPx-7 (glutathione peroxidase 7), also known as GPX6, CL683 or NPGPx, is a 187 amino acid secreted protein belonging to the glutathione peroxidase family. GPx-7 catalyzes the reaction of glutathione into glutathione disulfide, and is encoded by a gene located on human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

REFERENCES

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3. Richard, M.J., et al. 2001. Human immunodeficiency virus type 1 Tat protein impairs selenoglutathione peroxidase expression and activity by a mechanism independent of cellular selenium uptake: consequences on cellular resistance to UV-A radiation. *Arch. Biochem. Biophys.* 386: 213-220.
4. Utomo, A., et al. 2004. Identification of a novel putative non-selenocysteine containing phospholipid hydroperoxide glutathione peroxidase (NPGPx) essential for alleviating oxidative stress generated from polyunsaturated fatty acids in breast cancer cells. *J. Biol. Chem.* 279: 43522-43529.
5. Price, T.O., et al. 2005. HIV-1 viral proteins gp120 and Tat induce oxidative stress in brain endothelial cells. *Brain Res.* 1045: 57-63.
6. Brigelius-Flohe, R. 2006. Glutathione peroxidases and redox-regulated transcription factors. *Biol. Chem.* 387: 1329-1335.
7. Fujieda, M., et al. 2007. Effect of selenium-deficient diet on tubular epithelium in normal rats. *Pediatr. Nephrol.* 22: 192-201.

CHROMOSOMAL LOCATION

Genetic locus: GPX7 (human) mapping to 1p32.3; Gpx7 (mouse) mapping to 4 C7.

SOURCE

GPx-7 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GPx-7 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-160062 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPx-7 (S-12) is recommended for detection of GPx-7 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other GPx family members.

GPx-7 (S-12) is also recommended for detection of GPx-7 in additional species, including equine and bovine.

Suitable for use as control antibody for GPx-7 siRNA (h): sc-78832, GPx-7 siRNA (m): sc-145747, GPx-7 shRNA Plasmid (h): sc-78832-SH, GPx-7 shRNA Plasmid (m): sc-145747-SH, GPx-7 shRNA (h) Lentiviral Particles: sc-78832-V and GPx-7 shRNA (m) Lentiviral Particles: sc-145747-V.

Molecular Weight of GPx-7: 21 kDa.

RESEARCH USE

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