

Glutathione Peroxidase 4

Background : Glutathione peroxidases (Gpxs) are ubiquitously expressed proteins which catalyze the reduction of hydrogen peroxides and organic hydroperoxides by glutathione. There are several isoforms which differ in their primary structure and localization. The classical cytosolic/mitochondrial GPx1 (cGPx) is a selenium-dependent enzyme, first of the GPx family to be discovered. GPx2, also known as gastrointestinal GPx (GI-GPx), is an intracellular enzyme expressed only at the epithelium of the gastrointestinal tract (1). Extracellular plasma GPx (pGPx or GPx3) is mainly expressed by the kidney from where it is released into the blood circulation (2). Phospholipid hydroperoxide GPx4 (PH-GPx) expressed in most tissues, can reduce many hydroperoxides including hydroperoxides integrated in membranes, hydroperoxy lipids in low density lipoprotein or thymine (3). All mammalian GPx family members, except for the recently described Cys containing GPx3 and epididymis-specific secretory GPx (eGPx or GPx5) isoforms, possess selenocysteine at the active site (4-5).

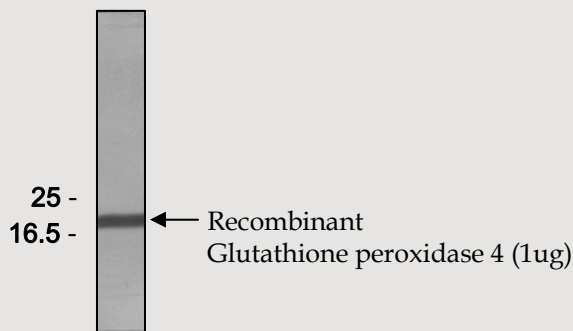
Source : Purified from *E.coli* expressing the human Glutathione Peroxidase 4 gene (Cysteine is substituted for Sec73)

Molecular Weight : 19 kDa

Packaging size : 1 mg

Concentration : 1.0 mg/ml

Storage : Glutathione Peroxidase 4 is supplied with a vial of storage buffer (20mM HEPES/300mM NaCl/1mM EDTA, pH 7.0). Store at -80°C.



Background Reference:

- 1) Takebe, G.. et al. (2002) J. Biol. Chem. 277, 41254-41258.
- 2) Avissar, N. et al. (1994) Am. J. Physiol. 267, E68-76.
- 3) Bao, Y. et al. (1997) FEBS Lett. 410, 210-212.
- 4) Chambers, I. et al. (1986) EMBO J. 5, 1221-1227.
- 5) Perry, A. et al. (1992) Biochem. J. 285, 863-870.