Recombinant Human GPX2 Protein, 190 residues

Cat. No. GPX2-19H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Glutathione Peroxidase 2 (Non-tagged; 190 residues)
Species	Human
ProteinLength	190 residues
Description	The protein encoded by this gene belongs to the glutathione peroxidase family, members of which catalyze the reduction of organic hydroperoxides and hydrogen peroxide (H2O2) by glutathione, and thereby protect cells against oxidative damage. Several isozymes of this gene family exist in vertebrates, which vary in cellular location and substrate specificity. This isozyme is predominantly expressed in the gastrointestinal tract (also in liver in human), is localized in the cytoplasm, and whose preferred substrate is hydrogen peroxide. Overexpression of this gene is associated with increased differentiation and proliferation in colorectal cancer. This isozyme is also a selenoprotein, containing the rare amino acid selenocysteine (Sec) at its active site. Sec is encoded by the UGA codon, which normally signals translation termination. The 3' UTRs of selenoprotein mRNAs contain a conserved stem-loop structure, designated the Sec insertion sequence (SECIS) element, that is necessary for the recognition of UGA as a Sec codon, rather than as a stop signal. Alternatively spliced transcript variants have been found for this gene.
Purity	≥ 95% as judged by gel analysis
Unit definition	1 U of enzyme consumes 1 μmol GSH per min in a Glutathione Reductase-coupled

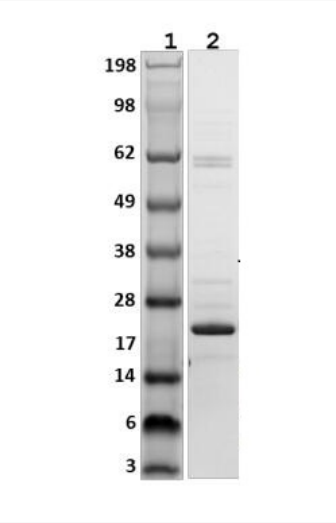
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	GPx assay containing 1 mM GSH, 0.5 mM Cumene Hydroperoxide, 15 nM Human Glutathione Reductase and 0.3 mM NADPH in TE buffer (50 mM Tris-HCl, 2 mM EDTA, pH 7.5)
Applications	Glutathione Reductase-coupled GPx assay; Inhibitor screening; etc.
Notes	Centrifuge the tube briefly before opening the lid.
Concentration	1 mg/mL
Storage Buffer	25 mM Tris-HCl (pH 8.0) with 250 mM KCl, 2 mM 2-Mercaptoethanol and 10% glycerol.
Shipping	Shipped in cold pack by courier service. Store at -20 centigrade upon delivery.
References	1. Cheng Q, Arnér ES. (2017) Selenocysteine Insertion at a Predefined UAG Codon in a Release Factor 1 (RF1)-depleted Escherichia coli Host Strain Bypasses Species Barriers in Recombinant Selenoprotein Translation. J Biol Chem. 292:5476-5487

GENE INFORMATION

Gene Name	GPX2 glutathione peroxidase 2 (gastrointestinal) [Homo sapiens (human)]
Official Symbol	GPX2
Synonyms	GPX2; glutathione peroxidase 2 (gastrointestinal); glutathione peroxidase 2; GSHPX GI; glutathione peroxidase-gastrointestinal; glutathione peroxidase-related protein 2; gastrointestinal glutathione peroxidase 2; GPRP; GPx-2; GI-GPx; GPRP-2; GPx-GI; GSHPx-2; GSHPX-GI
Gene ID	2877

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mRNA Refseq	NM_002083
Protein Refseq	NP_002074
MIM	138319
UniProt ID	P18283
Coomassie stained SDS PAGE analysis of 30 µg HGPX2.	 Lane 1: Molecular weight marker (SeeBlue Plus2) Lane 2: HGPX2

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