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Product Information

Glutaredoxin-1, human
recombinant, expressed in *E. coli*

Catalog Number **G5298**
Storage Temperature –20 °C

Synonyms: GLRX1, GRX1, Thioltransferase-1, TTase-1

Product Description
Glutaredoxins (GRX) participate in thio-disulfide exchange reactions in the presence of GSH, NADPH, and glutathione reductase. Glutaredoxins and thioredoxins belong to related families of low molecular mass enzymes that catalyze thio-disulfide exchange reactions. These enzymes are involved in electron transport, formation of disulfide linkage, protein folding, and protein regulation by thiol redox control.[1,2]

Two GRX have been identified in mammals:
1. GRX1 is found in the cytosol and supplies ribonucleotide reductase with electrons. It is involved in general disulfide-dithiol exchanges,[2] dehydroascorbate reduction,[3] cellular differentiation,[4] regulation of transcription factors[5-6] and apoptosis.[7,8]
2. GRX2 has two isoforms (GRX2a and GRX2b) derived from alternative first exons. GRX2a is targeted to mitochondria; whereas, GRX2b is predicted to be localized in the nucleus.[9,10] Unlike GRX1, GRX2 is not inhibited by oxidation of structural Cys residues.[11]

This product is lyophilized from a solution containing 10 mM MES, 100 mM NaCl, 1 mM DTT, and 1 mM EDTA.

Purity: ≥90% (SDS-PAGE)

Specific activity: ≥300 units/mg-protein

Unit definition: One unit oxidizes 1 μmole of NADPH per minute at pH 8 at 25 °C in a coupled reaction with glutathione reductase.[12]

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute with 125 μL of 50% glycerol. The reconstituted solution contains 2 mg-protein/mL in 10 mM MES, 100 mM NaCl, 1 mM DTT, 1 mM EDTA, and 50% glycerol.

Storage/Stability
Store the product desiccated at –20 °C. The product is stable for at least 2 years as supplied.

After reconstitution, store at –20 °C.

References
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