ALPHA DIAGNOSTIC INTERNATIONAL

Product Data Sheet

Cat # RP-354 Recombinant Human Protein Disulfide Isomerase **Size**: 100 ug

Protein disulfide isomerases (PDIs) constitute a family of structurally related enzymes which catalyze disulfide bonds formation, reduction, or isomerization of newly synthesized proteins in the lumen of the endoplasmic reticulum (ER). They act also as chaperones, and are, therefore, part of a quality-control system for the correct folding of the proteins in the same subcellular compartment. PDI has been found to have moderate effects (25-fold) on the rate of oxidative folding of proteins in vitro.Recombinant Human Protein Disulfide Isomerase is involved in disulphide-bond formation and isomerization, as well as the reduction of disulphide bonds in proteins. Recombinant PDI has been found to have moderate effects (25-fold) on the rate of oxidative folding of proteins in vitro.

Source: *Escherichia Coli.* Protein Disulfide Isomerase Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 508 amino acids and having a molecular mass of 57116 Dalton. The PDI contains N-terminal 6xHis-tag and purified by proprietary chromatographic techniques. The protein (1mg/ml) was lyophilized with 50mM potassium phosphate buffer pH=7.5.

Applications and Suggested Dilutions: The protein (1mg/ml) was lyophilized with 50mM potassium phosphate buffer pH=7.5. It is recommended to reconstitute the lyophilized PDI in sterile 18MΩ-cm H_2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions. Users must optimize the appropriate concentrations and conditions for each assay.

Storage and Stability: Lyophilized Protein Disulfide Isomerase although stable at room temperature for 3 weeks, should be stored desiccated below -18℃. Upon reconstitution Human PDI should be stored at 4℃ between 2-7 days and for future use below -18℃. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). **Please avoid freeze-thaw cycles.** If supplied in powder then reconstitute it in 100 ul water for 1 mg/ml stock and store in liquid at 4oC for ~1 week or aliquots in suitable size and store at -20oC for long term storage.

Reductase Activity: 1.0 x 10^{-3} Δ650nm/ min^{-2}. By measuring the turbidity increase at 650 nm due to insulin reduction (Holmgren, A. (1979) J. Biol. Chem. 254, 9627–9632). The activity is expressed as the ratio of the slope of a linear part of the turbidity curve to the lag time (Mart´nez-Galisteo, E., Padilla, C. A., Garcia-Alfonso, C., Lo´pez-Barea, J., and Barcena, J. A. (1993) Biochimie (Paris) 75, 803–809).

Isomerase Activity: 0.5 µmol active RNase A min-1 µmol PDI-1. According to the re-activation of reduced and denatured RNase A (Lyles, M. M. and Gilbert, H. F. (1991) Biochemistry 30, 613-619).

Usage: This item is for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

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