Data Sheet (Cat.No.TMPY-02372)

TargetMol

Peroxiredoxin 1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	PAG;OSF-3;OSF3;Paga;PRDX1;Tdpx2;PrxI;TDX2;TPxA;prx1;peroxiredoxin 1;NkefA;MSP23; PrdxI
Protein Construction:	A DNA sequence encoding the mouse PRDX1 (P35700) (Met 1-Lys 199) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Met 1
Species:	Mouse
Expression Host:	E. coli
Accession:	P35700
Molecular Weight:	23.5 kDa (predicted); 27 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, 10% glycerol, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Peroxiredoxin-1, also known as Thioredoxin peroxidase 2, Natural killer cell-enhancing factor A, PRDX1, and PAGA, is a member of the ahpC/TSA family. Peroxiredoxin-1 is constitutively expressed in most human cells. It is induced to higher levels upon serum stimulation in untransformed and transformed cells. Peroxiredoxins (PRDXs) are a family of antioxidant enzymes that are also known as scavengers of peroxide in mammalian cells. The

overexpression of Peroxiredoxin-1, which is one of the peroxiredoxins that is a ubiquitously expressed protein, was related to a poor prognosis in several types of human cancers. Peroxiredoxin-1 is involved in redox regulation of the cell. It reduces peroxides with reducing equivalents provided through the thioredoxin system but not from glutaredoxin and may play an important role in eliminating peroxides generated during metabolism. Peroxiredoxin-1 Might participate in the signaling cascades of growth factors and tumor necrosis factor-alpha by regulating the intracellular concentrations of H2O2. The reduced Peroxiredoxin-1 expression is an important factor in esophageal squamous cancer progression and could serve as a useful prognostic marker.

Reference

Neumann, CA. et al., 2003, Nature 424 (6948): 561-5
Gisin, J. et al., 2005, J Clin Pathol. 58 (11): 1229-31.
Hoshino, I. et al., 2007, Oncol Rep. 18 (4): 867-71.
Cao, J. et al., 2009, EMBO J. 28 (10): 1505-17.