

## Peroxiredoxin-1 protein, Human (P. pastoris, His)

Cat. No.:	HY-P790010
Synonyms:	PRDX1; PAG; OSF3; Paga; Prxl; TDX2; TPxA; prx1; MSP23
Species:	Human
Source:	P. pastoris
Accession:	Q06830 (M1-K199)
Gene ID:	5052
Molecular Weight:	Approximately 22.1 KDa

### PROPERTIES

AA Sequence	<p>M S S G N A K I G H    P A P N F K A T A V    M P D G Q F K D I S    L S D Y K G K Y V V</p> <p>F F F Y P L D F T F    V C P T E I I A F S    D R A E E F K K L N    C Q V I G A S V D S</p> <p>H F C H L A W V N T    P K K Q G G L G P M    N I P L V S D P K R    T I A Q D Y G V L K</p> <p>A D E G I S F R G L    F I I D D K G I L R    Q I T V N D L P V G    R S V D E T L R L V</p> <p>Q A F Q F T D K H G    E V C P A G W K P G    S D T I K P D V Q K    S K E Y F S K Q K</p>
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

Background	<p>Peroxiredoxin-1 (PRDX1), a thiol-specific peroxidase, serves as a catalytic agent in the reduction of hydrogen peroxide and organic hydroperoxides, converting them into water and alcohols, respectively. Its crucial role in cellular protection against oxidative stress involves detoxifying peroxides and acting as a sensor for hydrogen peroxide-mediated signaling events. PRDX1 may also contribute to the signaling cascades initiated by growth factors and tumor necrosis factor-alpha, potentially influencing intracellular H<sub>2</sub>O<sub>2</sub> concentrations. Notably, PRDX1 exhibits the ability to reduce an intramolecular disulfide bond in GDPD5, modulating GDPD5's capacity to drive postmitotic motor neuron differentiation. These multifaceted functions underscore PRDX1's intricate involvement in redox signaling and cellular differentiation processes.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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