PARP-2, HIGH PURITY

Mouse, Recombinant

Product Information

Product Number **P 1988**
Storage Temperature –70 °C

Product Description

Mouse Recombinant PARP-2 [Poly(ADP-ribose) Polymerase-2] is expressed in Sf9 cells using a baculovirus system and purified by affinity chromatography. The protein has a molecular mass of 62 kDa.[1]

Poly(ADP-ribosylation) is a post-translation modification of nuclear proteins in response to DNA damage. This modification activates the base excision repair mechanism. At the sites of DNA strand breaks, poly(ADP-ribose) polymerase catalyzes the transfer of ADP-ribose from NAD^+ to certain proteins involved in chromatin structure, DNA repair and DNA metabolism, including PARP itself.[1,2] Known members of the PARP family include PARP-1, PARP-2, the plant enzymes APP and NAP,[3,4] and tankyrase, an enzyme originally identified and localized at human telomeres.[5]

PARP-2, like PARP-1, is a nuclear protein. It shares considerable homology with PARP-1, particularly at the carboxy terminus which contains the catalytic domain.[1] This domain is also highly conserved across species with human PARP-2 and mouse PARP-2 exhibiting 87% amino acid identity. Unlike PARP-1, PARP-2 lacks the ADP-ribose acceptor site and auto-modification domain (BRCT domain), although automodification occurs efficiently.[1,2] Curiously, it also lacks the zinc finger motif of the DNA binding domain which acts as a nick sensor in PARP-1.[6,7] The DNA binding domain of PARP-2 (aa 1-64) does not have any known DNA binding motif, but it is rich in basic amino acids which are probably involved in this function.[2]

Reagent

Mouse Recombinant PARP-2 is supplied as 20 µg protein in 50 mM Tris-HCl, pH 7.5, 14 mM β-mercaptoethanol, 0.5 mM PMSF, 10 % glycerin.

Storage/Stability

Store at –70 °C. Avoid multiple freeze-thaw cycles.

Product Profile

Purity: >98%
One unit synthesizes 1 nmol of poly(ADP-ribose)/min. at 25 °C.
Activity: approx. 25 units/µg

References

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3. Babiychuk, E., et al., Higher plants possess two structurally different poly(ADP-ribose) polymerases. Plant J., **15**, 635-645 (1998).
4. Mahajan, P.B., and Zuo, Z., Purification and cDNA Cloning of Maize Poly(ADP)-Ribose Polymerase. Plant Physiol., **118**, 895-905 (1998).
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7. Gradwohl, G., et al., The second zinc-finger domain of poly(ADP-ribose) polymerase determines specificity for single-stranded breaks in DNA.Proc. Natl. Acad. Sci. USA, **87**, 2990-2994 (1990).

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