PARP-1 BOVINE, 98%

Product Information

Product Number **P 1738**
Storage Temperature –70 °C

Product Description

Bovine PARP-1 [Poly(ADP-ribose) Polymerase-1], 98% is isolated from a bovine source and purified by 3-aminobenzamidine chromatography.[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. [2-4]

PARP-1 is a nuclear enzyme that synthesizes ADP-ribose polymers from NAD^+, specifically binds Zn^{2+} and DNA, and recognizes single-strand breaks in DNA.[2-4] It is involved in base excision repair, both short-patch and long-patch, rejoining DNA strand breaks, and plays a role in p53 expression and activation.[3-6] A high level of basal neuronal DNA damage and PARP activity has been reported in rat brain tissue.[7] PARP-1 was shown to be required for HIV-1 integration into DNA. If PARP-1 is deficient there is no productive HIV-1 infection.[8]

Other known members of the PARP family include PARP-2, the plant enzymes APP and NAP,[9,10] and tankyrase, an enzyme originally identified and localized at human telomeres.[11]

Reagent

Bovine PARP-1, 98% is supplied as 10 µg protein in 50 mM Tris-HCl, pH 7.4, 1 M NaCl, 10 mM β-mercapto-ethanol, with 10 mM 3-methoxybenzamidine in DMSO.

Storage/Stability

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

Product Profile

Purity: approx. 98% as determined by Western blot[1]
One unit synthesizes 1 nmol of poly(ADP-ribose)/min.
Activity: 300-400 units/mg

References

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