PARP-1 BOVINE, 98%

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.

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 Zn²⁺ 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,⁹¹⁰ 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-mercaptoethanol, 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 blot¹
One unit synthesizes 1 nmol of poly(ADP-ribose)/min.
Activity: 300-400 units/mg

References