TREVIGEN® Product Data

For Research Use Only. Not For Use In Diagnostic Procedures

Human Poly(ADP-Ribose) Polymerase (PARP): High Specific Activity

Catalog #: 4668-100-01 **Size:** 1,000 Units

Description: Poly ADP-ribosylation by PARP of nuclear proteins is a posttranslational event that occurs in response to DNA damage. PARP inhibition prevents tissue damage in animal models of myocardial and neuronal ischemia, diabetes, septic shock, and vascular stroke. High specific activity PARP is ideal for use as a positive control in Trevigen's PARP Assay Kits (e.g. cat#s 4677-096-K; 4684-096-K; 4690-096-K) and in Western blot analysis of PARP in cell extracts.

Source: Purified from *E. coli* containing a recombinant plasmid harboring the human PARP gene.

Unit Definition: One unit of PARP incorporates 10 femtomoles of NAD onto 5 µg of immobilized histones in 30 minutes.

Assay Conditions: Combine 1X PARP buffer (50 mM Tris-Cl (pH 8.0), 25 mM $MgCl_2$, 0.1% Triton X-100); a 34 µM solution of NAD and biotinylated NAD, 0.02 mg/ml activated DNA, and serial dilutions of PARP in a reaction volume of 50 µl. Incubation is for 30 minutes on a histone-coated plate (cat# 4677-096-P) at 22 °C. The incorporation of biotinylated poly(ADP-ribose) is quantified by incubation with Streptavidin-HRP followed by addition of a colorimetric HRP substrate and measurement of the absorbance at 450 nm.

Storage Buffer: 20 mM Tris-Cl (pH 8.0), 200 mM NaCl, 1 mM DTT, 0.1% Triton X-100, 50% glycerol, and 0.1 mg/ml BSA.

Storage Conditions: The enzyme retains over 66% of its activity after 24 hr at 37 °C. Store at -20 °C in a manual defrost freezer. For long-term storage, freeze in working aliquots at -80 °C. Avoid freeze-thaw cycles.

References:

1. Satoh, M.S. and T. Lindahl. 1994. Role of poly(ADP-ribose) formation in DNA repair. Nature **356**:356-358.
2. Lautier, D., J. Lagueux, J. Thibodeau, L. Menard, and G.G. Poirier. 1993. Molecular and biochemical features of poly(ADP-ribose) metabolism. Mol Cell Biochem **122**:171-193.
3. Bazar, L.S. Quantitation of PARP Activity in cell extracts and determination of PARP inhibitor efficacy. Bioscience Technology, July 2005, 44-48.
4. Curtin NJ. 2005. PARP inhibitors for cancer therapy. *Expert Rev Mol Med*. **7**:1-20.
5. Kim MY, Mauro S, Gevry N, Lis JT, Kraus WL. 2004. NAD-Dependent Modulation of Chromatin Structure and Transcription by Nucleosome Binding Properties of PARP-1. *Cell* **119**:803–814.
6. Virag, L., and Szabo, C. 2002. The therapeutic potential of Poly(ADP-Ribose) Polymerase inhibitors. *Pharmacological Reviews* **54**:375-429.

Lot Specific Data: see reverse

 E10/5/09v1

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Lot Specific Data:
Activity:
Protein Concentration:
Specific Activity:

Human PARP
High Specific Activity
Catalog #: 4668-100-01

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Storage: -80 °C
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