



## PRODUCT DATA SHEET

**Product:** PARP-2, mouse recombinant

**Cat. No.:** BC-033 (20 µg)

**Background:**

The cDNA encoding human poly(ADP-ribose) polymerase (PARP) was cloned by several groups simultaneously. With the discovery of new members (homologs) of the PARP family, PARP is newly referred to as PARP-1.

The isolated cDNAs from mouse and human encode a protein with considerable homology to the catalytic domain of PARP-1. This protein, termed PARP-2, is a 64 kDa protein that contains a nuclear localization signal (NLS) and is activated by DNA breaks, although its DNA-binding domain is very different from that of PARP-1.

In recent years evidence has accumulated that poly(ADP-ribose) polymerase (PARP) plays a role in DNA repair and a substantial effort has been invested to elucidate the physiological function of the PARP pathway in cellular recovery from DNA damage. PARP has been found in the base excision repair (BER) complex with DNA polymerase-β, ligase III and x-ray repair cross-complementing 1 (XRCC1). PARP-1 and PARP-2, even though lacking the zinc-finger domains, bind to single and double strand breaks during oxidative stress. In general, it appears that an early enzymatic activation of PARP occurs upon DNA-strand break formation. Binding of PARP to a DNA nick may then cause a transient halt to cellular activity and protect the DNA from sister chromatid associated proteins such as histones. Nicotinamide is cleaved in this step from the substrate NAD<sup>+</sup> by PARP and the so synthesized poly(ADP)-ribose (PAR) is then used to generate ATP.

**Specific Activity:**

≥380 units/mg (one unit synthesizes 1 nmole of poly(ADP-ribose) per min at 25°C, pH 7.5.

**Purity:**

≥98% (SDS-PAGE).

**EC:**

2.4.2.30

**Host:**

Produced in Sf9 cells.

**Format:**

Liquid. Affinity purified. 20 µg at 1 mg/mL in 100 mM Tris-HCl (pH 7.5), 14 mM β-mercaptoethanol, 0.5 mM EDTA, 0.5 mM PMSF, 10% glycerol.

**Storage:**

Store at -80°C. Avoid multiple freeze / thaw cycles.

**Limitations:**

For *in vitro* research use only. Not for use in diagnostics or in humans.

**Warranty:**

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.