**NU1025**

**Cat. No.:** HY-15044  
**CAS No.:** 90417-38-2  
**Molecular Formula:** C₉H₈N₂O₂  
**Molecular Weight:** 176.17  
**Target:** PARP  
**Pathway:** Cell Cycle/DNA Damage; Epigenetics  
**Storage:** Please store the product under the recommended conditions in the COA.

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**BIOLOGICAL ACTIVITY**

**Description**  
NU1025 is a potent PARP inhibitor with an IC₅₀ of 400 nM and a Kᵢ of 48 nM. NU1025 potentiates the cytotoxicity of ionizing radiation and anticancer drugs. NU1025 has anti-cancer and neuroprotective activity¹²³.

**IC₅₀ & Target**  
IC₅₀: 400 nM (PARP)²  
Kᵢ: 48 nM (PARP)³

**In Vitro**  
NU1025 (0.2 mM) pretreatment restores cell viability to approximately 73% and 82% in H₂O₂ and SIN-1 injured cells, respectively¹.  
NU1025 enhances the cytotoxicity of the DNA-methylating agent MTIC, γ-irradiation and bleomycin 3.5-, 1.4- and 2-fold respectively in L1210 cells. The recovery from potentially lethal γ-irradiation damage cytotoxicity in plateau-phase cells is also inhibited by NU 1025. NU1025 causes a marked retardation of DNA repair².

**Cell Viability Assay¹**

- **Cell Line:** PC12 cells  
- **Concentration:** 0.2 mM  
- **Incubation Time:** 6.5 hours  
- **Result:** Restored cell viability to approximately 73% and 82% in H₂O₂ and SIN-1 injured cells.

**In Vivo**

NU1025 (1-3 mg/kg; intraperitoneal injection; male Sprague Dawley rats) treatment at 1 and 3 mg/kg reduces total infarct volume to 25% and 45%, respectively, when administered 1 h before reperfusion. NU1025 also produces significant improvement in neurological deficits. Neuroprotection with NU1025 is associated with reduction in PAR accumulation, reversal of brain NAD depletion and reduction in DNA fragmentation¹.

- **Animal Model:** Male Sprague Dawley rats (250-270 g) induced focal cerebral ischemia¹  
- **Dosage:** 1 mg/kg, 3 mg/kg  
- **Administration:** Intraperitoneal injection
Result: At 1 and 3 mg/kg, reduced total infarct volume to 25% and 45%, respectively.

REFERENCES

