

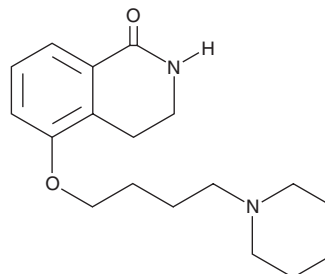
PRODUCT INFORMATION



DPQ

Item No. 14450

CAS Registry No.: 129075-73-6
Formal Name: 3,4-dihydro-5-[4-(1-piperidinyl)butoxy]-1(2H)-isoquinolinone
Synonym: PARP Inhibitor III
MF: C₁₈H₂₆N₂O₂
FW: 302.4
Purity: ≥99%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

DPQ is supplied as a solid. A stock solution may be made by dissolving the DPQ in the solvent of choice. DPQ is soluble in the organic solvent DMSO, which should be purged with an inert gas. Stock solutions in DMSO are stable for up to one month when stored at -20°C.

Description

The poly(ADP-ribose) polymerases (PARPs) form a family of enzymes with roles in DNA repair and apoptosis, particularly in response to reactive oxygen and nitrogen species.^{1,2} DPQ is a potent inhibitor of PARPs, inhibiting PARP1 with an IC₅₀ value of 40 nM.³ It is approximately 10-fold less potent against PARP2.⁴ DPQ can be used in either cells or in animals.^{5,6}

References

1. Davar, D., Beumer, J.H., Hamieh, L., *et al.* Role of PARP inhibitors in cancer biology and therapy. *Curr. Med. Chem.* **19(23)**, 3907-3921 (2012).
2. Mathews, M.T. and Berk, B.C. PARP-1 inhibition prevents oxidative and nitrosative stress-induced endothelial cell death via transactivation of the VEGF receptor 2. *Arterioscler. Thromb. Vasc. Biol.* **28(4)**, 711-717 (2008).
3. Costantino, G., Macchiarulo, A., Camaioni, E., *et al.* Modeling of poly(ADP-ribose)polymerase (PARP) inhibitors. Docking of ligands and quantitative structure-activity relationships analysis. *J. Med. Chem.* **44(23)**, 3786-3794 (2001).
4. Eltze, T., Boer, R., Wagner, T., *et al.* Imidazoquinolinone, imidazopyridine, and isoquinolindione derivatives as novel and potent inhibitors of the poly(ADP-ribose) polymerase (PARP): A comparison with standard PARP inhibitors. *Mol. Pharmacol.* **74(6)**, 1587-1598 (2008).
5. Fonfria, E., Marshall, I.C.B., Benham, C.D., *et al.* TRPM2 channel opening in response to oxidative stress is dependent on activation of poly(ADP-ribose) polymerase. *Br. J. Pharmacol.* **143(1)**, 186-192 (2004).
6. Giovannelli, L., Cozzi, A., Guarnieri, I., *et al.* Comet assay as a novel approach for studying DNA damage in focal cerebral ischemia: Differential effects of NMDA receptor antagonists and poly(ADP-ribose) polymerase inhibitors. *J. Cereb. Blood Flow Metab.* **22(6)**, 697-704 (2002).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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