

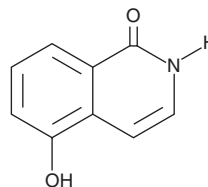
# PRODUCT INFORMATION



## 1,5-Isoquinolinediol

Item No. 14438

**CAS Registry No.:** 5154-02-9  
**Formal Name:** 5-hydroxy-1(2H)-isoquinolinone  
**Synonym:** 1,5-Dihydroxyisoquinoline, NSC 65585  
**MF:** C<sub>9</sub>H<sub>7</sub>NO<sub>2</sub>  
**FW:** 161.2  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** 4°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

1,5-Isoquinolinediol is supplied as a white to off-white solid. A stock solution may be made by dissolving the 1,5-isoquinolinediol in the solvent of choice. 1,5-Isoquinolinediol is soluble in organic solvents such as methanol and DMSO. 1,5-Isoquinolinediol is insoluble in water.

### Description

The poly(ADP-ribose) polymerases (PARPs) form a family of enzymes with roles in DNA repair and apoptosis.<sup>1</sup> 1,5-Isoquinolinediol is an inhibitor of poly(ADP-ribose) synthetase (PARP1; IC<sub>50</sub> = 0.39 μM).<sup>2</sup> It has been used to study the role of PARP1 in both DNA repair and oxidant stress-induced cell death.<sup>3-5</sup> This compound can be used with cells in culture and in animals.<sup>4,6,7</sup>

### 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. Banasik, M., Komura, H., Shimoyama, M., *et al.* Specific inhibitors of poly(ADP-ribose) synthetase and mono(ADP-ribosyl)transferase. *J. Biol. Chem.* **267(3)**, 1569-1575 (1992).
3. Ruscetti, T., Lehnert, B.E., Halbrook, J., *et al.* Stimulation of the DNA-dependent protein kinase by poly(ADP-ribose) polymerase. *J. Biol. Chem.* **273(23)**, 14461-14467 (1998).
4. Chatterjee, P.K., Zacharowski, K., Cuzzocrea, S., *et al.* Inhibitors of poly (ADP-ribose) synthetase reduce renal ischemia-reperfusion injury in the anesthetized rat *in vivo*. *FASEB J.* **14(5)**, 641-651 (2000).
5. Bowes, J., McDonald, M.C., Piper, J., *et al.* Inhibitors of poly (ADP-ribose) synthetase protect rat cardiomyocytes against oxidant stress. *Cardiovasc. Res.* **41(1)**, 126-134 (1999).
6. Byun, J.-Y., Kim, M.-J., Eum, D.-Y., *et al.* Reactive oxygen species-dependent activation of Bax and poly(ADP-ribose) polymerase-1 is required for mitochondrial cell death induced by triterpenoid pristimerin in human cervical cancer cells. *Mol. Pharmacol.* **76(4)**, 734-744 (2009).
7. Kang, Y.-H., Yi, M.-J., Kim, M.-J., *et al.* Caspase-independent cell death by arsenic trioxide in human cervical cancer cells: Reactive oxygen species-mediated poly(ADP-ribose) polymerase-1 activation signals apoptosis-inducing factor release from mitochondria. *Cancer Res.* **64(24)**, 8960-8967 (2004).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM