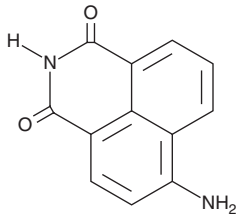
PRODUCT INFORMATION

4-amino-1,8-Naphthalimide

Item No. 18509

CAS Registry No.:	1742-95-6
Formal Name:	6-amino-1H-benz[de]isoquinoline-1,3(2H)-dione
Synonyms:	4-Aminonaphthalimide, 4-ANI
MF:	$C_{12}H_8N_2O_2$
FW:	212.2
Purity:	≥95%
UV/Vis.:	λ_{max}: 227, 252, 275, 435 nm
Supplied as:	A crystalline 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

4-amino-1,8-Naphthalimide is supplied as a crystalline solid. A stock solution may be made by dissolving the 4-amino-1,8-naphthalimide in the solvent of choice, which should be purged with an inert gas. 4-amino-1,8-Naphthalimide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 4-amino-1,8-naphthalimide in these solvents is approximately 1 and 0.3 mg/ml, respectively.

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] 4-ANI is an inhibitor of PARP (IC_{50} = 180 nM).[3] It blocks radiation-induced PARP in cancer cells, potentiating the cytotoxicity of γ-radiation, although it is not cytotoxic in the absence of radiation.[3] 4-ANI is used to study the role of PARP activity in various cell systems.[4-6]

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**, 711-717 (2008).
3. 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).
4. Issaeva, N., Thomas, H.D., Djureinovic, T., *et al*. 6-Thioguanine selectively kills BRCA2-defective tumors and overcomes PARP inhibitor resistance. *Cancer Res.* **70(15)**, 6268-6276 (2010).
5. Horton, J.K., Stefanick, D.F., Gassman, N.R., *et al*. Preventing oxidation of cellular XRCC1 affects PARP-mediated DNA damage responses. *DNA Repair (Amst)* **12(9)**, 774-785 (2013).
6. Luo, Q., Li, Y., Lai, Y., *et al*. The role of NF-κB in PARP-inhibitor-mediated sensitization and detoxification of arsenic trioxide in hepatocellular carcinoma cells. *J. Toxicol. Sci.* **40(3)**, 349-363 (2015).

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.

WARRANTY AND LIMITATION OF REMEDY
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