

PRODUCT INFORMATION



AZD 1080

Item No. 16676

CAS Registry No.: 612487-72-6
Formal Name: 2-hydroxy-3-[5-(4-morpholinylmethyl)-2-pyridinyl]-1H-indole-5-carbonitrile

MF: C₁₉H₁₈N₄O₂

FW: 334.4

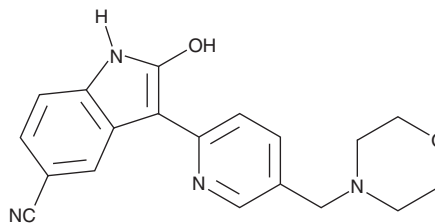
Purity: ≥95%

UV/Vis.: λ_{max}: 233, 255, 302, 347, 430 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

AZD 1080 is supplied as a crystalline solid. A stock solution may be made by dissolving the AZD 1080 in the solvent of choice. AZD 1080 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of AZD 1080 in these solvents is approximately 0.25, 30, and 25 mg/ml, respectively.

AZD 1080 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, AZD 1080 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. AZD 1080 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The two isoforms of glycogen synthase kinase 3, GSK3α and GSK3β, constitutively phosphorylate and inactivate glycogen synthase, preventing glycogen synthesis.¹ They also phosphorylate proteins that are relevant to Alzheimer's disease and osteogenesis.²⁻⁴ AZD 1080 is a potent, brain permeable inhibitor of GSK3α and GSK3β (K_is = 6.9 and 31 nM, respectively).^{5,6} It shows >14-fold selectivity against several kinases, receptors, enzymes, and ion channels.⁵ AZD 1080 inhibits tau phosphorylation in cells.⁵ It shows good bioavailability after oral administration *in vivo*, inhibiting hippocampal tau phosphorylation and reversing cognitive deficits induced by the NMDA receptor antagonist (+)-MK-801 (item No. 10009019).⁵ In humans, oral AZD 1080 inhibits GSK3 activity in peripheral blood lymphocytes following an initial delay in response.⁵

References

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2. Asuni, A.A., Hooper, C., Reynolds, C.H., *et al. Eur. J. Neurosci.* **24**(12), 3387-3392 (2006).
3. Phiel, C.J., Wilson, C.A., Lee, V.M., *et al. Nature* **423**(6938), 435-439 (2003).
4. Guerrero, F., Herencia, C., Almadén, Y., *et al. PLoS One* **9**(2), e89179 (2014).
5. Georgievska, B., Sandin, J., Doherty, J., *et al. J. Neurochem.* **125**(3), 446-456 (2013).
6. Eldar-Finkelman, H. and Martinez, A. *Front. Mol. Neurosci.* **4**, 1-18 (2011).

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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