

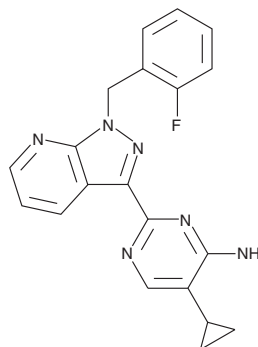
PRODUCT INFORMATION



BAY 41-2272

Item No. 10057

CAS Registry No.: 256376-24-6
Formal Name: 5-cyclopropyl-2-[1-[(2-fluorophenyl)methyl]-1H-pyrazolo[3,4-b]pyridin-3-yl]-4-pyrimidinamine
MF: C₂₀H₁₇FN₆
FW: 360.4
Purity: ≥95%
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 214, 255, 322 nm
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

BAY 41-2272 is supplied as a crystalline solid. A stock solution may be made by dissolving the BAY 41-2272 in the solvent of choice. BAY 41-2272 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of BAY 41-2272 in these solvents is approximately 0.16, 12.5, and 16.6 mg/ml, respectively.

BAY 41-2272 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, BAY 41-2272 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. BAY 41-2272 has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Soluble guanylate cyclase (sGC), a receptor for nitric oxide (NO), is a heterodimer consisting of alpha and beta subunits, with the beta subunit featuring a heme-nitric oxide (H-NOX) binding domain.¹ The binding of NO to H-NOX induces sGC to generate the second messenger cGMP. BAY 41-2272 is a pyrazolopyridine compound that acts as an activator of sGC, stimulating activity to a level that would be expected to cause biologically important increases in cGMP at concentrations as low as 10-100 nM.² Through this effect, it inhibits platelet aggregation (IC₅₀ = 36 nM), induces relaxation of phenylephrine-precontracted rabbit aorta rings (IC₅₀ = 304 nM), and reduces proliferation in smooth muscle.^{2,3} BAY 41-2272 is effective *in vivo*, as it decreases mean arterial blood pressure in hypertensive rats.² Unlike another sGC activator, YC-1 (Item No. 81560), BAY 41-2272 does not inhibit phosphodiesterases.⁴

References

1. Derbyshire, E.R. and Marletta, M.A. *Annu. Rev. Biochem.* **81**, 533-559 (2012).
2. Stasch, J.-P., Becker, E.M., Alonso-Alija, C., *et al. Nature* **410**, 212-215 (2001).
3. Evgenov, O.V., Pacher, P., Schmidt, P.M., *et al. Nat. Rev. Drug Discov.* **5(9)**, 755-768 (2006).
4. Stasch, J.-P., Alonso-Alija, C., Apeler, H., *et al. Br. J. Pharmacol.* **135**, 333-343 (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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