

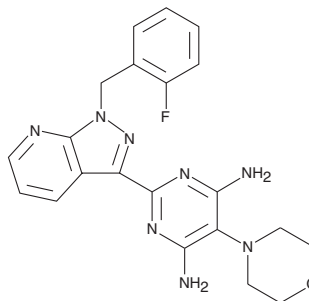
PRODUCT INFORMATION



BAY 41-8543

Item No. 10011131

CAS Registry No.: 256498-66-5
Formal Name: 2-[1-[(2-fluorophenyl)methyl]-1H-pyrazolo[3,4-b]pyridin-3-yl]-5-(4-morpholinyl)-4,6-pyrimidinediamine
MF: $C_{21}H_{21}FN_8O$
FW: 420.4
Purity: $\geq 98\%$
Stability: ≥ 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 212, 327 nm



Laboratory Procedures

For long term storage, we suggest that BAY 41-8543 be stored as supplied at -20°C . It should be stable for at least two years.

BAY 41-8543 is supplied as a crystalline solid. A stock solution may be made by dissolving the BAY 41-8543 in the solvent of choice. BAY 41-8543 is soluble in dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of BAY 41-8543 in this solvent is approximately 3 mg/ml.

BAY 41-8543 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, BAY 41-8543 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. BAY 41-8543 has a solubility of approximately 0.5 mg/ml in a 1:1 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) is the primary cellular receptor for nitric oxide (NO). NO binds and activates a heme group in sGC, initiating the conversion of GTP to the second messenger cyclic GMP (cGMP). BAY 41-8543 is a heme-dependent stimulator of sGC, increasing the activity of recombinant sGC dose-dependently, from 0.1 nM to 100 μM , up to 92-fold.¹ Surprisingly, NO donors synergize with BAY 41-8543 in stimulating recombinant sGC.¹ BAY 41-8543 relaxes vessels and inhibits platelet aggregation *in vitro* at nM concentrations.¹ *In vivo*, BAY 41-8543 decreases blood pressure dose-dependently, prolongs bleeding time, and reduces thrombosis.² Inhalation of microparticles containing BAY 41-8543 increases pulmonary vasodilation without changing mean arterial pressure, suggesting that agonists of sGC may be efficacious in treating pulmonary hypertension.³

References

1. Stasch, J.-P., Alonso-Alija, C., Apeler, H., *et al.* Pharmacological actions of a novel NO-independent guanylyl cyclase stimulator, BAY 41-8543: *in vitro* studies. *Br. J. Pharmacol.* **135**, 333-343 (2002).
2. Stasch, J.-P., Dembowsky, K., Perzborn, E., *et al.* Cardiovascular actions of a novel NO-independent guanylyl cyclase stimulator, BAY 41-8543: *in vivo* studies. *Br. J. Pharmacol.* **135**, 344-355 (2002).
3. Evgenov, O.V., Kohane, D.S., Bloch, K.D., *et al.* Inhaled agonists of soluble guanylate cyclase induce selective pulmonary vasodilation. *Am J Respir Crit Care Med* **176**, 1138-1145 (2007).

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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