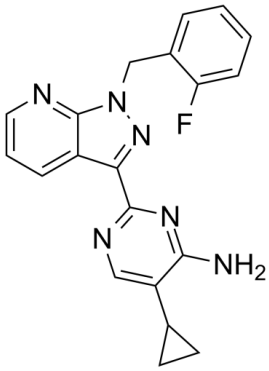
Data Sheet

Product Name:	BAY 41-2272
Cat. No.:	CS-5390
CAS No.:	256376-24-6
Molecular Formula:	C20H17FN6
Molecular Weight:	360.39
Target:	Guanylate Cyclase
Pathway:	GPCR/G Protein
Solubility:	DMSO : 17.5 mg/mL (48.56 mM; Need ultrasonic and warming)



BIOLOGICAL ACTIVITY:

BAY 41-2272 is a soluble guanylate cyclases (sGC) activator. Target: guanylate cyclase BAY 41-2272 is a recently introduced novel orally available agent that directly stimulates soluble guanylate cyclase (sGC) and sensitizes it to its physiological stimulator, nitric oxide. BAY 41-2272 is a promising new therapeutic agent that goes beyond current therapeutic agents. BAY 41-2272 acts as an arterial vasodilator, resulting in a reduction of MAP and pulmonary artery pressure and a decrease in SVR and renal vascular resistance. BAY 41-2272 reduces pulmonary capillary wedge pressure in the absence of a decrease in right atrial pressure. [2]

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [1] UM47 and CAL27 cells were treated for 60 minutes with the sGC activator BAY 41-2272 (BAY; 10 μM), the NO donor sodium nitroprusside (SNP; 1 mM), or the PDE5 inhibitor Tadalafil (Tad; 50 μM), or with a combination of BAY and Tadalafil or SNP and Tadalafil. As determined by an ELISA, all three drugs significantly increased cGMP content, with BAY being most effective in both cell lines; UM47 cells were considerably more responsive than CAL27 cells. As expected, combined treatments were more effective than treatment with any single drug. Animal administration [2] The current study was performed in male mongrel dogs (weight 20 to 28 kg). One group of dogs received 2 doses of BAY 41-2272 (2 and 10 μg · kg-1 · min-1; n=8), whereas the other received 2 doses of nitroglycerin (NTG; 1 and 5 μg · kg-1 · min-1; n=6). Doses were chosen in separate dose-finding studies. The study protocol started with the administration of a weight-adjusted inulin bolus. Continuous inulin and saline infusions at a rate of 1 mL/min each were started. After 60 minutes of equilibrium, a baseline clearance was done. All clearances lasted 30 minutes and consisted of urine collection, blood sampling, and hemodynamic measurements. After the baseline clearance, the saline infusion was replaced by the lower dose of the study drug (infusion rate 1 mL/min). After a lead-in period of 15 minutes, a 30-minute clearance was done. Thereafter, the higher dose of the study drug was administered in the same manner.

References:

[1]. Tuttle TR, et al. The cyclic GMP/protein kinase G pathway as a therapeutic target in head and neck squamous cell carcinoma. Cancer Lett. 2016 Jan 28;370(2):279-85.

[2]. Boerrigter G, et al. Cardiorenal and humoral properties of a novel direct soluble guanylate cyclase stimulator BAY 41-2272 in experimental congestive heart failure. Circulation. 2003 Feb 11;107(5):686-9.

CAIndexNames:

4-Pyrimidinamine, 5-cyclopropyl-2-[1-[(2-fluorophenyl)methyl]-1H-pyrazolo[3,4-b]pyridin-3-yl]-

SMILES:

NC1=NC(C2=NN(CC3=CC=CC=C3F)C4=NC=CC=C42)=NC=C1C5CC5

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 732-484-9848 Fax: 888-484-5008 E-mail: sales@ChemScene.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA