

Product Data Sheet

Product Name: BMS-986331

Cat. No.: GC79327

Chemical Properties

Cas. No. 2375684-52-7

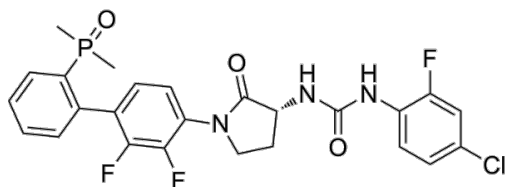
Formula $C_{25}H_{22}ClF_3N_3O_3P$ M.Wt 535.88

Solubility DMSO: 4.17 mg/mL (7.78 mM; ultrasonic and warming and heat to 60°C) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

BMS-986331 is an orally active selective N-Formyl Peptide Receptor 2 (FPR2) agonist with an EC 50 of 0.5 nM in humans and 1 nM in rats. BMS-986331 activates Gαi2, GαoA, Gα12, Gα13 signaling pathways, recruits β-arrestin1 and β-arrestin2, and inhibits downstream cAMP. BMS-986331 induces the expression and release of the pro-resolution cytokine IL-10. BMS-986331 improves cardiac structure and function in a rat model of heart failure induced by permanent coronary artery occlusion. BMS-986331 can be used for the research of heart failure [1].

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

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In Vivo, BMS-986331 (Compound 16) (10 mg/kg; p.o.; single dose) induces a 105% increase in plasma IL-10 levels in LPS-challenged rats^[1]. BMS-986331 (0.1-10 mg/kg/day; p.o.; once daily; 6 weeks) preserves infarct wall thickness and improves left ventricular ejection fraction in rats with permanent coronary artery occlusion^[1].

In Vitro, BMS-986331 (Compound 16) potently activates human FPR2 (hFPR2) with an EC₅₀ of 0.5 nM and exhibits 500-fold selectivity over hFPR1; it also activates rat FPR2 with an EC₅₀ of 0.6 nM and 280-fold selectivity over rat FPR1^[1]. BMS-986331 shows high chemical stability at pH 1, with a half-life > 500 min^[1]. BMS-986331 (100 nM) induces a 211% increase in IL-10 levels in human whole blood^[1]. BMS-986331 potently activates multiple signaling pathways via human FPR2 in HEK293 cells, with EC₅₀ values of 0.50 nM for G α i2, 0.56 nM for G α oA, 16 nM for G α 12/P115, and 40 nM for G α 13/PDZ-RhoGEF^[1]. BMS-986331 induces the recruitment of β -arrestin1 and β -arrestin2 to human FPR2 in HEK293 cells, with EC₅₀ values of 46 nM for β -arrestin1 and 19 nM for β -arrestin2^[1]. BMS-986331 inhibits OATP1B3 with an IC₅₀ of 12 μ M^[1]. BMS-986331 retains 88% of its concentration in human liver microsomes and 33% in rat liver microsomes after incubation^[1].

References:

[1]. Shirude PS, et al. From Lead to Clinical Candidate: Discovery of BMS-986331 as a Potent and Selective N -Formyl Peptide Receptor 2 Agonist. J Med Chem. 2026;69(4):4078-4089.

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