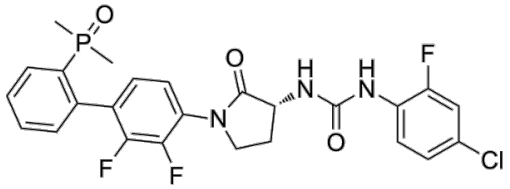
Product Data Sheet

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 Gαi2, 0.56 nM for GαoA, 16 nM for Gα12/P115, and 40 nM for Gα13/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 IC_{50} of 12 μM[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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