

KMN-80

Chemical Properties

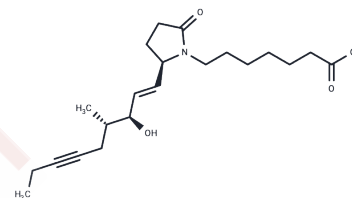
CAS No. : 1628759-75-0

Formula: C₂₁H₃₃NO₄

Molecular Weight: 363.49

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	The prostaglandin E receptor 4 (EP4) is one of four G protein-coupled receptors that mediate the actions of prostaglandin E ₂ . Binding of PGE ₂ to the EP4 receptor causes an increase in intracellular cyclic AMP, which plays important roles in bone formation and resorption, cancer, and atherosclerosis. KMN-80 is a substituted γ -lactam (pyrrolidinone) derivative of PGE ₁ that acts as a selective and potent agonist of EP4 with an IC ₅₀ value of 3 nM (IC ₅₀ = 1.4 μ M for EP3 and > 10 μ M for all other prostanoid receptors). In functional assays it has been shown to stimulate secreted alkaline phosphatase gene reporter activity in EP4-transfected HEK293 cells with an EC ₅₀ value of 0.19 nM, demonstrating >5,000 and 50,000-fold selectivity against EP2 and TP, respectively. KMN-80 can induce the differentiation of bone marrow stem cells from both young and aged rats into osteoblasts in vitro (EC ₅₀ s = 20 and 153 nM, respectively) and exhibits favorable tolerability up to at least 10 μ M, whereas the EP4 agonist L-902,688 is highly cytotoxic at similar concentrations in these cells. KMN-80 has been used to repair calvarial defects in an in vivo rat craniomaxillofacial reconstruction model (rate of reduction in defect size equivalent to BMP-2 treated rats) and to promote bone formation in a rat incisor tooth socket model.
Targets(IC50)	Others,Prostaglandin Receptor

Solubility Information

Solubility	DMF: 20 mg/mL (55.02 mM),Sonication is recommended. Ethanol: 25 mg/mL (68.78 mM),Sonication is recommended. Ethanol:PBS(pH 7.2) (1:1): 0.5 mg/mL (1.38 mM),Sonication is recommended. DMSO: 15 mg/mL (41.27 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7511 mL	13.7555 mL	27.5111 mL
5 mM	0.5502 mL	2.7511 mL	5.5022 mL
10 mM	0.2751 mL	1.3756 mL	2.7511 mL
50 mM	0.055 mL	0.2751 mL	0.5502 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481