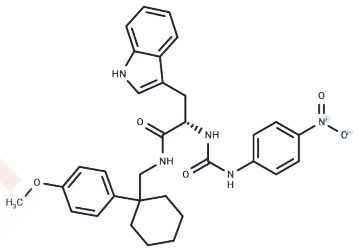
Data Sheet (Cat.No.T4540)

TargetMol

ML-18

Chemical Properties



CAS No. : 1422269-30-4

Formula: C32H35N5O5

Molecular Weight: 569.65

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	ML-18 is a non-peptide bombesin receptor subtype-3 (BRS-3) antagonist with an IC50 of 4.8 [mu]M.
Targets(IC50)	Bombesin Receptor
In vitro	ML-18, at a concentration of 16 μM, reversibly inhibits BA1 at 10 nM from increasing cytosolic Ca2+ levels and at 100 nM from inducing tyrosine phosphorylation of EGFR and ERK in lung cancer cells, using FURA2-AM-loaded lung cancer cells for the former evaluation. This compound also suppresses lung cancer cell proliferation. Furthermore, ML-18 demonstrates specific inhibition of 125I-BA1 (DTyr-Gln-Trp-Ala-Val-βAla-His-Phe-Nle-NH2)BB6-14 binding to BRS-3-expressing NCI-H1299 lung cancer cells, presenting an IC50 value of 4.8 μM. It exhibits reduced affinity towards GRPR and NMBR with IC50 values of 16 μM and over 100 μM, respectively.
Kinase Assay	The cells are incubated in SIT buffer containing 0.25% bovine serum albumin and 250 μg/mL bacitracin and 125I-BA1 (100,000 cpm) is added, as well as various concentrations of unlabelled competitor (ML-18). After incubation at 37°C for 30 min, free 125I-BA1 is removed by washing 3 times in buffer and the cells which contain bound 125I-BA1 is dissolved in 0.2 N NaOH and counted in a gamma counter. The IC50 is calculated for each unlabeled competitor.
Cell Research	ML-18 is dissolved in DMSO at a concentration of 10 mM prior to use. Cell viability is measured using the MTT assay. NCI-H727 or NCI-H1299 cells transfected with BRS-3 are treated with ML-18 (0, 4.8, 16, 48 μM) or gefitinib added. After 2 days, 15 μL of 0.1 % MTT solution added. After 4 h, 150 μL of DMSO is added. After 16 h, the optical density at 570 nm is determined.

Solubility Information

Solubility	DMSO: 50 mg/mL (87.77 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (4.39 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7555 mL	8.7773 mL	17.5546 mL
5 mM	0.3511 mL	1.7555 mL	3.5109 mL
10 mM	0.1755 mL	0.8777 mL	1.7555 mL
50 mM	0.0351 mL	0.1755 mL	0.3511 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.

Reference

Moody TW, et al. ML-18 is a non-peptide bombesin receptor subtype-3 antagonist which inhibits lung cancer growth. Peptides. 2015 Feb;64:55-61.