

Product Data Sheet

Product Name: ML-18
Cat. No.: GC33152

Chemical Properties

Cas. No. 1422269-30-4

SMILES O=C([C@@H](NC(NC1=CC=C(N(=O)=O)C=C1)=O)CC2=CNC3=CC=CC=C23)NCCC4(C5=CC=C(OC)C=C5)CCCCC4

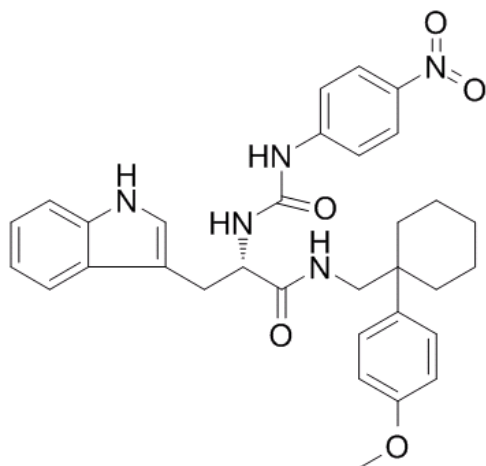
Formula $C_{32}H_{35}N_5O_5$ M.Wt 569.65

Solubility DMSO : ≥ 100 mg/mL (175.55 mM) 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



Protocol

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

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Kinase experiment: 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[1].

Cell experiment: 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[1].

References:

[1]. 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.

Background

ML-18 is a non-peptide bombesin receptor subtype-3 (BRS-3) antagonist with an IC50 of 4.8 µM.

ML-18 inhibits specific 125I-BA1 (DTyr-Gln-Trp-Ala-Val-βAla-His-Phe-Nle-NH₂)BB6-14 binding to NCI-H1299 lung cancer cells stably transfected with BRS-3 with IC50 values of 4.8 µM. ML-18 binds with lower affinity to the GRPR and NMBR with IC50 values of 16 and more than 100 µM, respectively. ML-18 at 16 µM inhibits the ability of 10 nM BA1 to elevate cytosolic Ca²⁺ in a reversible manner using lung cancer cells loaded with FURA2-AM. ML-18 at 16 µM inhibits the ability of 100 nM BA1 to cause tyrosine phosphorylation of the EGFR and ERK in lung cancer cells. It inhibits the proliferation of lung cancer cells[1].

[1]. 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.

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