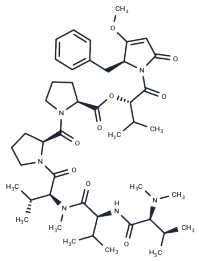
Data Sheet (Cat.No.T15158)

TargetMol

Dolastatin 15

Chemical Properties



CAS No. : 123884-00-4

Formula: C45H68N6O9

Molecular Weight: 837.072

Storage: Keep away from moisture
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	Dolastatin 15, a depsipeptide derived from Dolabella auricularia, is a potent antimitotic agent structurally related to the anti-tubulin agent Dolastatin 10. Dolastatin 15 can be used as an ADC cytotoxin and it induces cell cycle arrest and apoptosis in multiple myeloma cells.
Targets(IC50)	Apoptosis,Microtubule Associated,ADC Cytotoxin
In vitro	Dolastatin 15 shows growth inhibitory activity against all four SCLC cell lines (NCI-H69, NCI-H82, NCI-H345, NCI-H446) (IC50: 0.039-28.8 nM), which were 2.7-9.2-fold higher than the values for dolastatin 10. Dolastatin 15 induces cell cycle arrest at the G2/M phase followed by apoptosis in various human myeloma cell lines (RPMI8226, U266, and IM9) and it also induces apoptosis of myeloma cells via activation of both mitochondrial- and Fas (CD95)/Fas-L (CD95-L)-mediated pathways [2]. All four SCLC cell lines underwent G2/M arrest within 24 hours of exposure to dolastatin 15 [4].
In vivo	Dolastatin 15, through a non-cleavable linker, is conjugated to Trastuzumab at the drug's C-terminus lysine residues. The resulting compound, Trastuzumab-amide-C-term-Dol15, inhibits the growth of cells with high HER2 expression (i.e., SK-BR-3, SK-OV-3) in a target-dependent manner in vitro. Furthermore, this antibody-drug conjugate (ADC) demonstrates efficacy at various doses (i.e., 10 and 20 mg/kg) in a SK-OV-3 human ovarian cancer xenograft model [3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1946 mL	5.9732 mL	11.9464 mL
5 mM	0.2389 mL	1.1946 mL	2.3893 mL
10 mM	0.1195 mL	0.5973 mL	1.1946 mL
50 mM	0.0239 mL	0.1195 mL	0.2389 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

Bai R, et al. Dolastatin 15, a potent antimitotic depsipeptide derived from Dolabella auricularia. Interaction with tubulin and effects of cellular microtubules. Biochem Pharmacol. 1992 Jun 23;43(12):2637-45.
Sato M, et al. A natural peptide, dolastatin 15, induces G2/M cell cycle arrest and apoptosis of human multiple myeloma cells. Int J Oncol. 2007 Jun;30(6):1453-9.
Gianolio DA, et al. Targeting HER2-positive cancer with dolastatin 15 derivatives conjugated to trastuzumab, novel antibody-drug conjugates. Cancer Chemother Pharmacol. 2012 Sep;70(3):439-49.
Ali MA, et al. Dolastatin 15 induces apoptosis and BCL-2 phosphorylation in small cell lung cancer cell lines. Anticancer Res. 1998 Mar-Apr;18(2A):1021-6.