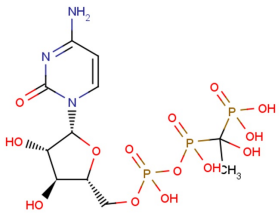
Data Sheet (Cat.No.T11956L)

TargetMol
A DRUG SCREENING EXPERT

MBC-11

Chemical Properties



CAS No.:	332863-86-2
Formula:	C11H20N3O14P3
Molecular Weight:	511.21
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	MBC-11 is a first-in-class conjugate of the bone-targeting bisphosphonate etidronate covalently linked to the antimetabolite cytarabine (araC). It also has the potential to treat tumor-induced bone disease (TIBD).
Targets(IC_{50})	Others: None
In vitro	MBC-11 reduces KAS-6/1 cell growth from approximately 56% at 10-8 M to 6% at 10-5 M. MBC-11 displays similar activity profiles and obviously suppresses the growth of all three cell lines between 10-8 and 10-4 M [1].
In vivo	MBC-11 obviously reduces bone tumor burden compared to PBS- or zoledronate-treated mice. MBC-11 (0.04 μg/day, s.c.) has a lower incidence of bone metastases of 40% compared to those treated with PBS (90%) or 0.04 μg/day zoledronate (100%). Weight gained in mice treated with up to 500 μg/day of MBC-11 is similar to the PBS treated group. These results show that MBC-11 decreases bone tumor burden maintains the bone structure, and may increase overall survival, warranting further investigation as a treatment for tumor-induced bone disease (TIBD)[1].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.956 mL	9.781 mL	19.561 mL
5 mM	0.391 mL	1.956 mL	3.912 mL
10 mM	0.196 mL	0.978 mL	1.956 mL
50 mM	0.039 mL	0.196 mL	0.391 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Reinholz MM, et al. A promising approach for treatment of tumor-induced bone diseases: utilizing bisphosphonate derivatives of nucleoside antimetabolites. Bone. 2010 Jul;47(1):12-22.

2. Zinnen SP, et al. First-in-Human Phase I Study of MBC-11, a Novel Bone-Targeted Cytarabine-Etidronate Conjugate in Patients with Cancer-Induced Bone Disease. Oncologist. 2019 Mar;24(3):303-e102.

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