Guadecitabine sodium

Catalog No.C12381 Batch:C1238103

Product Datasheet

Technical Data

Formula	$C_{18}H_{23}N_9O_{10}P$. Na					
Molecular Weight	579.39	**CAS No.**	929904-85-8			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (172.59 mM)			
		Water	50 mg/mL (86.29 mM)			
		Ethanol	Insoluble			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.7260 mL	8.6298 mL	17.2595 mL
5 mM	0.3452 mL	1.7260 mL	3.4519 mL
10 mM	0.1726 mL	0.8630 mL	1.7260 mL
50 mM	0.0345 mL	0.1726 mL	0.3452 mL

Biological Activity

Description	Guadecitabine sodium(SGI-110 sodium; S-110 sodium) is a next-generation hypomethylating agent.
Targets	DNA methyltransferase [1]
In vitro	Guadecitabine (SGI-110) is a 5-aza-2′-deoxycytidine-containing demethylating dinucleotide that works via a mechanism similar to that of 5-aza-CdR after incorporation of its aza-moiety into DNA. However, it is well protected from deamination by cytidine deaminase. This compound (1 μM) induces a significant decrease in the level of methylation in both T24 and HCT116 cells and is able to induce robust *p16* expression. It also causes depletion of extractable DNMT1 in cells at 1 μM concentration. Furthermore, it decreases the plating efficiency of T24 bladder carcinoma cells in a dose-dependent manner, with no colonies forming at 10 μM concentration, which is quite similar to 5-aza-CdR in T24 cells. [1] It shows immunomodulatory activity in vitro. At 1 μM, it induces/up-regulates the expression of several cancer/testis antigens (CTA) (i.e., MAGE-A1, MAGE-A2, MAGE-A3, MAGE-A4, MAGE-A10, GAGE1-2, GAGE 1-6, NY-ESO-1, and SSX 1-5) in cancer cell lines (cutaneous melanoma, mesothelioma, renal cell carcinoma, and sarcoma cells), both at mRNA and at protein levels. This compound also up-regulates the expression of HLA class I antigens and of ICAM-1, resulting in improved recognition of cancer cells by gp100-specific CTL. [2]
In vivo	Guadecitabine (SGI-110) is as effective as 5-Aza-CdR, but is better tolerated in mice. This compound (10 mg/kg) displays potent activity on inducing p16 expression, reducing DNA methylation at the p16 promoter region, and retarding tumor growth in human xenograft. It is effective by both i.p. and s.c. deliveries. [3]

Protocol (from reference)

Cell Assay:[5]

- **Cell lines**
  UMUC-3 cells
- **Concentrations**
  2 μM
- **Incubation Time**
  24 h
- **Method**
  Cells were treated with indicated concentrations of Guadecitabine (SGI-110).

Animal Study:[3]

- **Animal Models**
  Human bladder cancers xenografts EJ6
- **Dosages**
  10 mg/kg
- **Administration**
  i.p. or s.c.

References

https://pubmed.ncbi.nlm.nih.gov/17616700/ https://pubmed.ncbi.nlm.nih.gov/23138873/ https://pubmed.ncbi.nlm.nih.gov/20442312/

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RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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EU Headquarters
Gajeva ulica 28, HR-10000 Zagreb, Croatia

US Headquarters
12222 Merit Dr STE 130 Dallas, Texas, 75251

UK Headquarters
121 ABILITY HOUSE, BROOKER ROAD, EN9 1JH, ESSEX

Orders: Sales@capsidbio.com
Enquiries: info@capsidbio.com
www.capsidbio.com