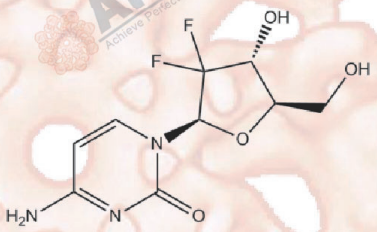
Product Name: Gemcitabine
Revision Date: 01/10/2021

Product Data Sheet

Gemcitabine



Cat. No.: A8437

CAS No.: 95058-81-4

Formula: C9H11F2N3O4

M.Wt: 263.2

Synonyms:

Target: DNA Damage/DNA Repair

Pathway: DNA Synthesis

Storage: Store at -20°C

Solvent & Solubility

In Vitro

≥11.75 mg/mL in H2O with gentle warming; ≥26.34 mg/mL in DMSO; ≥7.54 mg/mL in EtOH with ultrasonic

Preparing Stock Solutions

Concentration \ Mass / Solvent	1mg	5mg	10mg
1 mM	3.7994 mL	18.9970 mL	37.9939 mL
5 mM	0.7599 mL	3.7994 mL	7.5988 mL
10 mM	0.3799 mL	1.8997 mL	3.7994 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	inhibitor of DNA synthesis
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	HeLa cells, K562 cells, HOS and MG63 cell lines.
Preparation method:	The solubility of this compound in DMSO > 10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	100 nM gemcitabine for 3 h in HeLa cells for immunofluorescence, 500 nM gemcitabine for 6 h for SDS-PAGE
	Applications:	In Hela cells and K562 cells, gemcitabine activated both the ATR/Chk1 and ATM/Chk2 signaling pathways. (ATR: ataxia-telangiectasia mutated and Rad3-related kinase; Chk: checkpoint kinase; ATM: ataxia-telangiectasia mutated kinase). Gemcitabine is a DNA synthesis inhibitor with anti-tumor activity. In human osteosarcoma cell lines HOS and MG63, gemcitabine inhibited DNA synthesis and induced apoptosis.
In Vivo	**Animal experiment**	
	Animal models:	Female C57BL/6 mice infected with LP-BM5 MuLV
	Dosage form:	1, 2, 4 mg/kg/day for 8 week by injection.
	Applications:	Mice treated with 1 or 2 mg/kg/day had an average ratio of spleen to body weight that was significantly lower than the infected with virus, untreated mice. Treatment with gemcitabine decreased MAIDS associated lesions in the lymph nodes. IgM levels from mice treated with 2 mg/kg/day of gemcitabine were significantly lower than that seen in the uninfected animals. Gemcitabine decreased provirus levels.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

[1] Karnitz LM, Flatten KS, Wagner JM, et al. Gemcitabine-induced activation of checkpoint signaling pathways that affect tumor cell survival. Mol Pharmacol, 2005, 68(6): 1636-1644.

[2] Ando T, Ichikawa J, Okamoto A, et al. Gemcitabine inhibits viability, growth, and metastasis of osteosarcoma cell lines. J Orthop Res, 2005, 23(4): 964-969.

[3] Clouser CL, Holtz CM, Mullett M, et al. Analysis of the ex vivo and in vivo antiretroviral activity of gemcitabine. PLoS One, 2011, 6(1): e15840.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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