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Quality Guarantee

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Gemcitabine (Hydrochloride)

Catalog No: tcsc0755

Available Sizes

Size: 500mg

Size: 1g

Specifications

CAS No:
122111-03-9

Formula:
$C_9H_{12}ClF_2N_3O_4$

Pathway:
Cell Cycle/DNA Damage;Cell Cycle/DNA Damage;Autophagy

Target:
Nucleoside Antimetabolite/Analog;DNA/RNA Synthesis;Autophagy

Purity / Grade:
>98%

Solubility:
H2O : ≥ 66.66 mg/mL (222.45 mM)

Alternative Names:
LY 188011 hydrochloride

Observed Molecular Weight:
299.66

Product Description

Gemcitabine hydrochloride is a **DNA synthesis** inhibitor with **IC_{50}** of 37.6, 42.9, 92.7, 89.3 and 131.4 nM in BxPC-3, Mia Paca-2, PANC-1, PL-45 and AsPC-1 cells, respectively.

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IC50 & Target: DNA synthesis[1]

In Vitro: MTS assay demonstrates that Gemcitabine at 15 nM, indole-3-carbinol (I3C) at 50 μM and the combination does not affect hTERT-HPNE cell viability. However, treatment with Gemcitabine at 15 nM, I3C at 50 μM and the combination results in 31%, 19% and 72% cell death of BxPC-3 cells, respectively[1].

In Vivo: The aim of study is to formulate PLGA nanoparticles (NPs) of Gemcitabine Hydrochloride (Gemcitabine HCl) for enhanced oral bioavailability via absorption through M cells of Peyer's patches. Gemcitabine HCl is available as i.v. infusion due to its short half life (8-17 min), rapid metabolism and limited tumor uptake. Gemcitabine loaded PLGA NPs shows 21.47-fold increase in relative bioavailability in comparison to plain drug solution after oral delivery[2]. After i.v. injection of Gemcitabine at doses of 50, 100, and 120, and 300 mg/kg, the highest dose caused considerable body weight loss (p10) and 100 mg/kg is considered as the maximal tolerated dose, which does not cause any mortality and a minimal body weight loss[3].