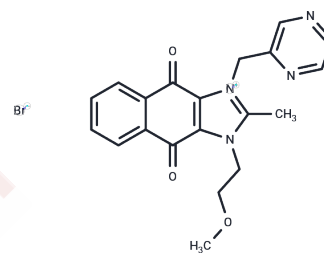


Sepantronium bromide

Chemical Properties

CAS No. :	781661-94-7
Formula:	C ₂₀ H ₁₉ BrN ₄ O ₃
Molecular Weight:	443.26
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Sepantronium bromide (YM-155) is a novel, highly selective Survivin inhibitor with good water solubility, exhibiting pro-apoptotic effects and antitumor activity. Sepantronium bromide is a Survivin inhibitor with an IC ₅₀ of 0.54 nM.
Targets(IC ₅₀)	Autophagy, Survivin
In vitro	<p>Methods: MM cell line RPMI8226 cells and NK cells were treated with gradient concentrations of Sepantronium bromide (0.1, 1, 2.5, 5, 10, 25, 50 nM) for 18 hours, followed by flow cytometric analysis for cytotoxicity.</p> <p>Results: For MM cells, 2.5 nM and 5 nM Sepantronium bromide exhibited strong cytotoxicity, while these concentrations were non-toxic to NK cells. [1]</p> <p>Methods: H9C2 rat cardiomyocytes were cultured with normal glucose (5.5 mM) (control group), high glucose (33 mM) (model group), and YAP1 overexpression ± HG ± Sepantronium bromide (1 μM) (intervention group) for 48 hours. Apoptosis rates were assessed via Hoechst 33342 staining.</p> <p>Results: High glucose (HG) induced increased cardiomyocyte apoptosis. YAP1 overexpression significantly reduced HG-induced apoptosis. Co-treatment with Sepantronium bromide partially inhibited the anti-apoptotic effect of YAP1 overexpression, leading to a rebound in apoptosis rates. [2]</p>
In vivo	<p>Methods: RAG2^{-/-}γc^{-/-} mice received subcutaneous implantation of ceramic scaffolds loaded with human BMSCs, followed by loading with luciferase-labeled UM9 MM cells to establish a humanized bone marrow microenvironment. After successful establishment, continuous subcutaneous infusion of Sepantronium bromide (1 mg/kg/day for 10 days) via a subcutaneous osmotic pump, intraperitoneal injection of Daratumumab (8 mg/kg, twice weekly for 5 weeks), or combined administration of both drugs. Monitoring continued until day 63 post-treatment initiation.</p> <p>Results: The combination therapy group effectively controlled tumor growth throughout the entire experimental period (63 days), exhibiting significantly smaller tumor volumes compared to both the Sepantronium bromide monotherapy and Daratumumab monotherapy groups. [1]</p>
Kinase Assay	Promoter-luciferase reporter assay: A 2,767-bp sequence of human survivin gene promoter is isolated from human genomic DNA by PCR using Pyrobest polymerase and the following primers: 5

A DRUG SCREENING EXPERT

Cell Research	Cells are seeded in 96-well plates at a density of $5-40 \times 10^3$. YM155 is dissolved in DMSO and added to cells for 48 hours. Then the cell count is determined by sulforhodamine B assay. (Only for Reference)
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Solubility Information

Solubility	H ₂ O: 82 mg/mL (184.99 mM), Sonication is recommended. Ethanol: 6 mg/mL (13.54 mM), Sonication is recommended. DMSO: 48 mg/mL (108.29 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (2.26 mM), Sonication is recommended. 10% DMSO+90% Saline: 4.8 mg/mL (10.83 mM), Solution. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.256 mL	11.2801 mL	22.5601 mL
5 mM	0.4512 mL	2.256 mL	4.512 mL
10 mM	0.2256 mL	1.128 mL	2.256 mL
50 mM	0.0451 mL	0.2256 mL	0.4512 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

de Haart SJ, et al. Sepantronium bromide (YM155) improves daratumumab-mediated cellular lysis of multiple myeloma cells by abrogation of bone marrow stromal cell-induced resistance. *Haematologica*. 2016 Aug;101(8): e339-42.

Gao X, Ren X, Wang F, et al. Immunotherapy and drug sensitivity predictive roles of a novel prognostic model in hepatocellular carcinoma. *Scientific Reports*. 2024, 14(1): 9509.

Su D, Li Y, Guan L, Li Q, Shi C, Ma X, Song Y. Elevated MST1 leads to apoptosis via depletion of YAP1 in cardiomyocytes exposed to high glucose. *Mol Med*. 2021 Feb 10;27(1):13.

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