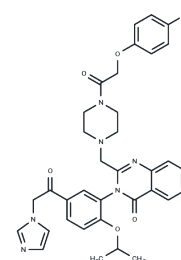


Imidazole ketone erastin

Chemical Properties

CAS No. :	1801530-11-9
Formula:	C ₃₅ H ₃₅ ClN ₆ O ₅
Molecular Weight:	655.14
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Imidazole ketone erastin (IKE) is an ferroptosis inducer with inhibitory effects on system Xc-cystine/glutamate transporter proteins. Imidazole ketone erastin has antitumor activity and induces glutathione depletion and lipid peroxidation.
Targets(IC50)	Ferroptosis
In vitro	<p>METHODS: Human astrocytoma cells CCF-STTG1 were incubated with Imidazole ketone erastin for 2 h. Glutamate released into the medium was detected using glutamate oxidase, horseradish peroxidase, and Amplex UltraRed fluorimetric assay.</p> <p>RESULTS: The IC₅₀ for system xc- inhibition by Imidazole ketone erastin was 30 nM. [1]</p> <p>METHODS: 18 DLBCL cell lines were treated with Imidazole ketone erastin (0.0001-100 μM) for 24 h. Cell viability was measured using the Cell Titor-Glo luminescent cell viability test.</p> <p>RESULTS: DLBCL cell lines showed different sensitivities to Imidazole ketone erastin inhibition. 7 cell lines with IC₅₀ 100 nM were categorized as sensitive; 5 cell lines with IC₅₀ >10 μM were categorized as resistant; and 6 cell lines with IC₅₀ between 100 nM and 10 μM were categorized as moderately resistant. [2]</p>
In vivo	<p>METHODS: To detect anti-tumor activity in vivo, Imidazole ketone erastin (23-40 mg/kg, 5% DMSO in HBSS at pH 4) was injected intraperitoneally into NCG mice harboring human diffuse histiocytic lymphoma SUDHL6 once daily for thirteen days.</p> <p>RESULTS: Imidazole ketone erastin inhibited tumor growth in vivo. [2]</p> <p>METHODS: To test the antitumor activity in vivo, Imidazole ketone erastin (40 mg/kg every two days) and liproxstatin-1 (10 mg/kg once a day) were intraperitoneally injected into C57BL/6 mice with the hepatocellular carcinoma tumor Hepa1-6 for ten days on either a control (Met+) or a methionine-free (Met-) diet. Met-) diet.</p> <p>RESULTS: In mice receiving the control diet, Imidazole ketone erastin treatment effectively reduced tumor growth, and this effect was completely blocked by liproxstatin-1. However, in mice receiving a methionine-free diet, Imidazole ketone erastin treatment failed to inhibit tumor growth. [3]</p>

Solubility Information

Solubility	DMSO: 100 mg/mL (152.64 mM), Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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In vivo Formulation	<p>10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (6.11 mM), Sonication is recommended.</p> <p><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></p>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.5264 mL	7.632 mL	15.2639 mL
5 mM	0.3053 mL	1.5264 mL	3.0528 mL
10 mM	0.1526 mL	0.7632 mL	1.5264 mL
50 mM	0.0305 mL	0.1526 mL	0.3053 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

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