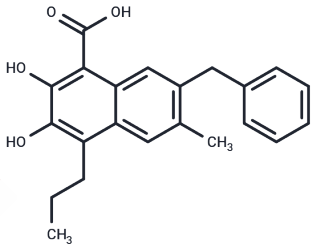
Data Sheet (Cat.No.T15362)

TargetMol

FX-11

Chemical Properties



CAS No. : 213971-34-7

Formula: C22H22O4

Molecular Weight: 350.41

Storage: Store at low temperature,Keep away from moisture
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	FX-11 (LDHA Inhibitor FX11) is a highly potent, selective, and competitive inhibitor of lactate dehydrogenase A (LDHA), with a Ki value of 8 μM for LDHA. FX-11 acts as an activator of PKM2 (pyruvate kinase M2). FX-11 exerts its antitumor effects by inhibiting glycolysis, depleting ATP, and inducing oxidative stress and apoptosis. FX-11 can be used in tumor metabolism research.
Targets(IC50)	Apoptosis,Reactive Oxygen Species,Dehydrogenase,ROS
In vitro	**Methods**: Human breast cancer cells (MCF-7) were cultured under normoxic and hypoxic conditions. Cells were treated with the inhibitor FX-11 at half-logarithmic dilution concentrations (200, 100, 50, 25, 12.5, 0 μM) for 24 hours. Cell viability was assessed using the AlamarBlue assay. **Results**: FX-11 monotherapy: Inhibited cancer cell proliferation under both normoxic and hypoxic conditions. [1] **Methods**: Human umbilical vein endothelial cells (HUVEC) were treated with FX-11 (20 μM). After 2 hours, cells were stimulated with LPS (200 ng/mL) for 24 hours to induce inflammation. Immunoblotting was used to detect HIF-1α and LDHA expression levels. **Results**: FX-11 treatment significantly suppressed LPS-induced upregulation of HIF-1α and LDHA protein expression. [2]
In vivo	**Methods**: C57BL/6J mice were administered FX-11 (10 mg/kg) via intraperitoneal injection. Two hours later, LPS (20 mg/kg) was administered intraperitoneally to induce an acute lung injury model of sepsis. Tissue samples were collected and analyzed after 24 hours. **Results**: FX-11 pretreatment significantly attenuated LPS-induced pathological damage in lung tissue and markedly reduced HIF-1α and LDHA protein levels in lung tissue. [2]

Solubility Information

Solubility	DMSO: 260 mg/mL (741.99 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: 5 mg/mL (14.27 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8538 mL	14.269 mL	28.538 mL
5 mM	0.5708 mL	2.8538 mL	5.7076 mL
10 mM	0.2854 mL	1.4269 mL	2.8538 mL
50 mM	0.0571 mL	0.2854 mL	0.5708 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

Alobaidi B, et al. Targeting the monocarboxylate transporter MCT2 and lactate dehydrogenase A LDHA in cancer cells with FX-11 and AR-C155858 inhibitors. Eur Rev Med Pharmacol Sci. 2023 Jul;27(14):6605-6617.
Kuang X, et al. GDF15 attenuates sepsis-induced acute lung injury by suppressing the HIF-1α/LDHA pathway. Int Immunopharmacol. 2025 Oct 10;163:115198.
Scroggins BT, et al. Hyperpolarized [1-13C]-pyruvate magnetic resonance spectroscopic imaging of prostate cancer In Vivo predicts efficacy of targeting the Warburg effect. Clin Cancer Res 2018;24(13):3137-3148.
Gong Y, et al. Metabolic-Pathway-Based Subtyping of Triple-Negative Breast Cancer Reveals Potential Therapeutic Targets. Cell Metab. 2021;33(1):51-64.

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