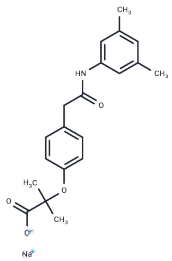
Data Sheet (Cat.No.T6482)

TargetMol

Efaproxiral Sodium

Chemical Properties



CAS No. : 170787-99-2

Formula: C20H23NO4·Na

Molecular Weight: 363.38

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	Efaproxiral Sodium (RSR13 sodium), a synthetic allosteric modifier of hemoglobin, is utilized for brain metastases originating from breast cancer.
Targets(IC50)	Reactive Oxygen Species,ROS
In vitro	Efaproxiral, a synthetic allosteric modifier of hemoglobinoxygen binding affinity, has been shown to bind reversibly to hemoglobin, stabilizing the deoxyhemoglobin tetramer conformation to reduce its affinity for oxygen. [1]
In vivo	Efaproxiral plus oxygen breathing reduces the radiobiological hypoxic fraction of EMT6 tumors from the value of 24% found in both air-breathing and oxygen-breathing mice to 9% and improves the response of the tumors to radiation. Carboplatin (100 mg/kg) slowes tumor growth in air-breathing mice, producing a growth delay of 3.3 days. Efaproxiral plus oxygen increases the growth delay to 5.7 days; this is 2.4 days (71%) greater than that for carboplatin alone and 2.1 days (57%) greater than that for carboplatin plus oxygen breathing. Efaproxiral plus oxygen breathing, therefore, improves the tumor growth delay obtained with 100 mg/kg carboplatin to or beyond that obtained with the highly toxic dose of 150 mg/kg carboplatin, but does so without increasing the toxicity beyond that seen with 100 mg/kg carboplatin in air-breathing mice.[1] Efaproxiral significantly increases tumor oxygenation by 8.4 to 43.4 mmHg within 5 days in C3H mice with RIF-1 tumors, with maximum increases at 22-31 min after treatment. Efaproxiral plus oxygen plus Radiation produces tumor growth inhibition throughout the treatment duration in C3H mice with RIF-1 tumors, and inhibition is significantly different from radiation plus oxygen from day 3 to day 5. [2]

Solubility Information

Solubility	DMSO: 68 mg/mL (187.13 mM),Sonication is recommended. H2O: 67 mg/mL (184.38 mM),Sonication is recommended. Ethanol: 68 mg/mL (187.13 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: 2 mg/mL (5.5 mM),Sonication is recommended. *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*

In vivo Formulation	*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	2.7519 mL	13.7597 mL	27.5194 mL
5 mM	0.5504 mL	2.7519 mL	5.5039 mL
10 mM	0.2752 mL	1.376 mL	2.7519 mL
50 mM	0.055 mL	0.2752 mL	0.5504 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

Donnelly ET, et al. Exp Biol Med (Maywood), 2006, 231(3), 317-321.
Hou H, et al. Radiat Res, 2007, 168(2), 218-225.