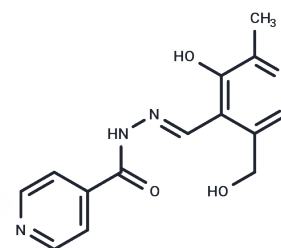


pyridoxal isonicotinoyl hydrazone

Chemical Properties

CAS No. :	737-86-0
Formula:	C ₁₄ H ₁₄ N ₄ O ₃
Molecular Weight:	286.29
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	pyridoxal isonicotinoyl hydrazone (PIH) is a cell-permeable and relatively non-toxic iron (Fe ³⁺) chelator that shows high iron chelation efficacy both in vitro and in vivo.
Targets(IC50)	Others
In vitro	After a 60-minute reincubation of ⁵⁹ Fe-labeled reticulocytes with tris-hydroxamate deferoxamine (5 mmol/L), 3.5% of cellular ⁵⁹ Fe was released, although Pyridoxal isonicotinoyl hydrazone (PIH) at a 50-fold lower concentration (0.1 mmol/L) released 38.6% of cellular ⁵⁹ Fe [1]. In primary human hepatocytes and the human hepatocellular carcinoma cell line HepG2/C3A, PIH treatment decreases FeCh protein levels, but not FeCh mRNA levels; and PIH is detected after isoniazid treatment, with levels increasing further when exogenous vitamin B6 analogs are coadministered [2].
In vivo	Intraperitoneal administration of PIH to mice (5 mg/25 gm mouse/day) over 6 days decreased ⁵⁹ Fe levels in the liver, spleen, and kidney but not in the blood. After oral administration, PIH resulted in an eightfold increase in fecal Fe excretion and possibly some urinary excretion of Fe [1].

Solubility Information

Solubility	DMSO: 28.63 mg/mL (100 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 (3.49 mM), Sonication is recommended. <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	3.493 mL	17.4648 mL	34.9296 mL
5 mM	0.6986 mL	3.493 mL	6.9859 mL
10 mM	0.3493 mL	1.7465 mL	3.493 mL
50 mM	0.0699 mL	0.3493 mL	0.6986 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

- Richardson DR, et al. Pyridoxal isonicotinoyl hydrazone and its analogs: potential orally effective iron-chelating agents for the treatment of iron overload disease. *J Lab Clin Med.* 1998 Apr;131(4):306-15.
Brewer CT, et al. The Isoniazid Metabolites Hydrazine and Pyridoxal Isonicotinoyl Hydrazone Modulate Heme Biosynthesis. *Toxicol Sci.* 2019 Mar 1;168(1):209-224.

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