Propylthiouracil

Cat. No.:	HY-B0346		
CAS No.:	51-52-5		
Molecular Formula:	C ₇ H ₁₀ N ₂ OS		
Molecular Weight:	170.23		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year

SOLVENT & SOLUBILITY

In Vitro	DMSO : ≥ 100 mg/mL H ₂ O : < 0.1 mg/mL (ul * "≥" means soluble, l	(587.44 mM) trasonic) (insoluble) but saturation unknown.			
		Solvent Mass Concentration	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	5.8744 mL	29.3720 mL	58.7441 mL
		5 mM	1.1749 mL	5.8744 mL	11.7488 mL
		10 mM	0.5874 mL	2.9372 mL	5.8744 mL
	Please refer to the so	lubility information to select the app	propriate solvent.		
In Vivo	1. Add each solvent o Solubility: ≥ 2.5 m	one by one: 10% DMSO >> 40% PEC g/mL (14.69 mM); Clear solution	G300 >> 5% Tween-80) >> 45% saline	
	2. Add each solvent o Solubility: ≥ 2.5 m	one by one: 10% DMSO >> 90% (20 g/mL (14.69 mM); Clear solution	% SBE-β-CD in saline)		
	3. Add each solvent o Solubility: ≥ 2.5 m	one by one: 10% DMSO >> 90% cor g/mL (14.69 mM); Clear solution	n oil		

BIOLOGICAL ACTIV	ТТҮ
Description	Propylthiouracil (6-n-Propylthiouracil), a thioamide antithyroid agent, is an orally active thyroperoxidase and type-1 deiodinase (DIO1) inhibitor. Propylthiouracil can be used for the Graves disease and hyperthyroidism research ^[1] .
In Vitro	Propylthiouracil (5.5-330 μg/mL; 24 h) induces growth retardation and cytotoxicity in a dose-dependent manner in U-93 cells ^[2] .

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	MCE has not independen Cell Viability Assay ^[2]	ntly confirmed the accuracy of these methods. They are for reference only.
	Cell Line:	U-937 cells
	Concentration:	5.5 μg/mL, 11 μg/mL, 110 μg/mL, 220 μg/mL, 330 μg/mL
	Incubation Time:	24 hours
	Result:	Induced cytotoxicity in a dose-dependent manner.
In Vivo	Propylthiouracil induces	s hypothyroidism in adult C57BL/6J and wild-derived WSB/EiJ male mice by given an iodine-
n Vivo	Propylthiouracil induces deficient diet suppleme MCE has not independe	s hypothyroidism in adult C57BL/6J and wild-derived WSB/EiJ male mice by given an iodine- nted with 0.15% Propylthiouracil ^[1] . ntly confirmed the accuracy of these methods. They are for reference only.
n Vivo	Propylthiouracil induces deficient diet suppleme MCE has not independer Animal Model:	s hypothyroidism in adult C57BL/6J and wild-derived WSB/EiJ male mice by given an iodine- nted with 0.15% Propylthiouracil ^[1] . ntly confirmed the accuracy of these methods. They are for reference only. Adult C57BL/6J and wild-derived WSB/EiJ male mice (8-weeks old) ^[1]
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n Vivo	Propylthiouracil induces deficient diet suppleme MCE has not independer Animal Model: Dosage: Administration:	s hypothyroidism in adult C57BL/6J and wild-derived WSB/EiJ male mice by given an iodine- nted with 0.15% Propylthiouracil ^[1] . ntly confirmed the accuracy of these methods. They are for reference only. Adult C57BL/6J and wild-derived WSB/EiJ male mice (8-weeks old) ^[1] 1.5 g/kg diet Iodine-deficient diet; for 7 weeks

REFERENCES

[1]. Lamis Chamas, et al. A Fine Regulation of the Hippocampal Thyroid Signalling Protects Hypothyroid Mice against Glial Cell Activation. Int J Mol Sci. 2022 Oct 8;23(19):11938.

[2]. Utsana Puapermpoonsiri, et al. Synergistic effect of phospholipid-based liposomes and propylthiouracil on U-937 cell growth. J Liposome Res. 2005;15(3-4):215-27.

Caution: Product has not been fully validated for medical applications. For research use only.

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