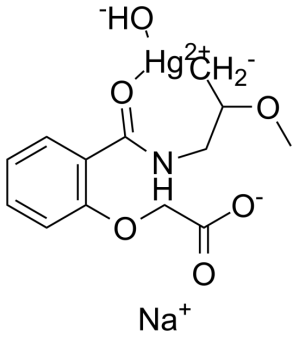
Mersalyl

Cat. No.:	HY-108868
CAS No.:	492-18-2
Molecular Formula:	$C_{13}H_{16}HgNNaO_6$
Molecular Weight:	505.85
Target:	HIF/HIF Prolyl-Hydroxylase; VEGFR
Pathway:	Metabolic Enzyme/Protease; Protein Tyrosine Kinase/RTK
Storage:	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (197.69 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9769 mL	9.8844 mL	19.7687 mL
	5 mM	0.3954 mL	1.9769 mL	3.9537 mL
	10 mM	0.1977 mL	0.9884 mL	1.9769 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.94 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Mersalyl (Salirgan) is a potent vascular endothelial growth factor (VEGF) and hypoxia-inducible factor 1 (HIF-1) inducer. Mersalyl induces VEGF and ENO1 mRNA expression. Mersalyl shows diuresis effects[1][2][3].

In Vitro

Mersalyl (100 μM) induces VEGF and ENO1 mRNA expression but inhibits EPO mRNA expression induced by hypoxia, DFO, or $CoCl_2$[2].

Mersalyl (20 μM; 5 min) is a cell-impermeant organomercurial compound that reacts with free thiol groups in mitochondrial membrane protein[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[2]

Cell Line:	Hep3B cells
Concentration:	100 μM
Incubation Time:	6 h
Result:	Induced VEGF and ENO1 mRNA expression but inhibited EPO mRNA expression induced by hypoxia, DFO, or CoCl2.

In Vivo

Mersalyl (2.5-40 mg/kg; intramuscularly injection) shows diuresis effects in Rats[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Rats[3]
Dosage:	2.5-40 mg/kg
Administration:	Intramuscularly injection
Result:	Significantly depressed in sulfhydryl concentration at 5 mg/kg.

REFERENCES

[1]. Kowaltowski AJ, et al. Mitochondrial membrane protein thiol reactivity with N-ethylmaleimide or mersalyl is modified by Ca2+: correlation with mitochondrial permeability transition. Biochim Biophys Acta. 1997 Feb 15;1318(3):395-402.

[2]. Agani F, et al. Mersalyl is a novel inducer of vascular endothelial growth factor gene expression and hypoxia-inducible factor 1 activity. Mol Pharmacol. 1998 Nov;54(5):749-54.

[3]. FARAH A, et al. Histochemical studies on the site of action of mercurial diuretics. J Histochem Cytochem. 1955 Jul;3(4):271-3.

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