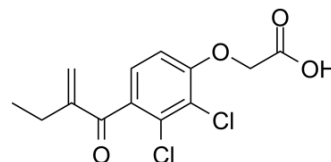


Ethacrynic acid

Cat. No.:	HY-B1640
CAS No.:	58-54-8
Molecular Formula:	C ₁₃ H ₁₂ Cl ₂ O ₄
Molecular Weight:	303.14
Target:	Gutathione S-transferase; NF-κB; Calcium Channel
Pathway:	Metabolic Enzyme/Protease; NF-κB; Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (329.88 mM; Need ultrasonic)
H₂O : 27.5 mg/mL (90.72 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.2988 mL	16.4940 mL	32.9881 mL
	5 mM	0.6598 mL	3.2988 mL	6.5976 mL
	10 mM	0.3299 mL	1.6494 mL	3.2988 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (8.25 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (8.25 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (8.25 mM); Clear solution
- Add each solvent one by one: PBS
Solubility: 1 mg/mL (3.30 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Ethacrynic acid is a diuretic. Ethacrynic acid is an inhibitor of glutathione S-transferases (GSTs). Ethacrynic acid is a potent inhibitor of NF-κB-signaling pathway, and also modulates leukotriene formation. Ethacrynic acid also inhibits L-type voltage-dependent and store-operated calcium channel, leading to relaxation of airway smooth muscle (ASM) cells. Ethacrynic acid has anti-inflammatory properties that reduces the retinoid-induced ear edema in mice^{[1][2][3][4]}.

CUSTOMER VALIDATION

- EMBO Rep. 2021 Apr 15;e51649.
- Life Sci Alliance. 2021 Jun 18;4(8):e202000906.

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REFERENCES

- [1]. Li XQ, et al. Metabolism of Strained Rings: Glutathione S-transferase-Catalyzed Formation of a Glutathione-Conjugated Spiro-azetidine without Prior Bioactivation. *Drug Metab Dispos.* 2019 Nov;47(11):1247-1256.
- [2]. Harada T, et al. Ethacrynic acid decreases expression of proinflammatory intestinal wall cytokines and ameliorates gastrointestinal stasis in murine postoperative ileus. *Clinics (Sao Paulo).* 2018 Oct 18;73:e332.
- [3]. Zhao XX, et al. Ethacrynic acid inhibits airway smooth muscle contraction in mice. *Sheng Li Xue Bao.* 2019 Dec 25;71(6):863-873.
- [4]. Byun HJ, et al. Ethacrynic Acid Inhibits Sphingosylphosphorylcholine-Induced Keratin 8 Phosphorylation and Reorganization via Transglutaminase-2 Inhibition. *Biomol Ther (Seoul).* 2013 Sep 30;21(5):338-42.
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Caution: Product has not been fully validated for medical applications. For research use only.

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