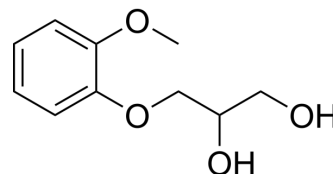


Guaifenesin

Cat. No.:	HY-B0264
CAS No.:	93-14-1
Molecular Formula:	C ₁₀ H ₁₄ O ₄
Molecular Weight:	198.22
Target:	Mucin
Pathway:	Immunology/Inflammation
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 (504.49 mM; Need ultrasonic and warming)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		5.0449 mL	25.2245 mL	50.4490 mL
	5 mM		1.0090 mL	5.0449 mL	10.0898 mL
	10 mM		0.5045 mL	2.5224 mL	5.0449 mL

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

BIOLOGICAL ACTIVITY

Description

Guaifenesin (Guaiaicol glyceryl ether), a constituent of guaiac resin from the wood of *Guajacum officinale* Linné, is an expectorant. Guaifenesin can alleviate cough discomfort by increasing sputum volume and decreasing its viscosity, thereby promoting effective cough^{[1][2]}.

In Vitro

Guaifenesin (2 or 20 µg/mL, 6-48 h) inhibits mucin release in epithelial cultures^[3].
 Guaifenesin (10-300 µM, 3-24 h) inhibits IL-13-induced MUC5AC content and secretion in primary human airway epithelial cells^[4].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Guaifenesin (50 mg/kg, p.o.; or 10 mg/kg, i.v.; rats) shows a t_{1/2} of 45.6 h (p.o.), and 49.0 h (i.v.), AUC of 2469 (p.o.) and 711 (i.v.) µg·min/mL^[5].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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- [1]. Seagrave J, et al. Effect of guaifenesin on mucin production, rheology, and mucociliary transport in differentiated human airway epithelial cells. *Exp Lung Res*. 2011 Dec;37(10):606-14.
- [2]. Seagrave J, et al. Effects of guaifenesin, N-acetylcysteine, and ambroxol on MUC5AC and mucociliary transport in primary differentiated human tracheal-bronchial cells. *Respir Res*. 2012 Oct 31;13(1):98.
- [3]. Kagan L, et al. Effect of mode of administration on guaifenesin pharmacokinetics and expectorant action in the rat model. *Pulm Pharmacol Ther*. 2009 Jun;22(3):260-5.
- [4]. Bennett, S., N. Hoffman, and M. Monga, Ephedrine- and guaifenesin-induced nephrolithiasis. *J Altern Complement Med*, 2004. 10(6): p. 967-9.
- [5]. Dicipinigitis PV, et, al. Effect of guaifenesin on cough reflex sensitivity. *Chest*. 2003 Dec;124(6):2178-81.
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Caution: Product has not been fully validated for medical applications. For research use only.

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