Bisacodyl

Cat. No.: HY-B0557

CAS No.: 603-50-9

Molecular Formula: $C_{22}H_{19}NO_4$

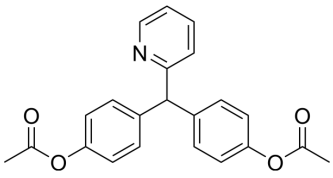
Molecular Weight: 361.39

Target: Dopamine Transporter; Opioid Receptor

Pathway: Neuronal Signaling; GPCR/G Protein

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 : 50 mg/mL (138.35 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7671 mL	13.8355 mL	27.6709 mL
5 mM	0.5534 mL	2.7671 mL	5.5342 mL
10 mM	0.2767 mL	1.3835 mL	2.7671 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 (6.92 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.92 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.92 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bisacodyl is a stimulant laxative agent that works directly on the colon to produce a bowel movement. Bisacodyl increases the secretion of PGE_2 by direct activation of colon macrophages. PGE_2 acts as a paracrine factor and decreases the expression of AQP3 in the colon, which inhibits water transfer from the luminal to the vascular side and leads to a laxative effect[1].

In Vivo

Bisacodyl (20 mg/kg) results in a decrease in AQP3 protein expression and increased mRNA expression level of TNF-α in the

colon of rats [1]. Bisacodyl inhibits water absorption in rat jejunum, ileum, and colon, the degree of inhibition is linearly related to the logarithm of the bisacodyl concentration over the range of 0.05 mg to 2.0 mg per 100 mL [2]. Bisacodyl (10 mg/kg, intragastrically) induces a significant decrease in jejunal NOS activity in rats. Bisacodyl (10 mg/kg, intragastrically) increases the distance traveled by the marker in all time periods [3]. Bisacodyl (5.9 mg/kg) decreases significantly jejunal and colonic (Na + K) ATPase activity as compared to saline-treated rats. Bisacodyl (5.9 mg/kg) increases significantly jejunal and colonic PGE2 content and stimulates jejunal and colonic adenyl cyclase activity as compared to those in control rats without affecting cAMP content [4]. Bisacodyl (4.3 mg/kg) coupled with AOM increases the number of crypt per focus, but not the number of tumors in rats. Bisacodyl (43 mg/kg) significantly increases the number of crypt per focus and tumors in rats [5].

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

REFERENCES

[1]. Ikarashi, N., et al., The laxative effect of bisacodyl is attributable to decreased aquaporin-3 expression in the colon induced by increased PGE2 secretion from macrophages. Am J Physiol Gastrointest Liver Physiol, 2011. 301(5): p. G887-95.

[2]. Saunders, D.R., et al., Effect of bisacodyl on the structure and function of rodent and human intestine. Gastroenterology, 1977. 72(5 Pt 1): p. 849-56.

[3]. Karmeli, F., R. Stalnikowicz, and D. Rachmilewitz, Effect of colchicine and bisacodyl on rat intestinal transit and nitric oxide synthase activity. Scand J Gastroenterol, 1997. 32(8): p. 791-6.

[4]. Rachmilewitz, D., F. Karmeli, and E. Okon, Effects of bisacodyl on cAMP and prostaglandin E2 contents, (Na + K) ATPase, adenyl cyclase, and phosphodiesterase activities of rat intestine. Dig Dis Sci, 1980. 25(8): p. 602-8.

[5]. Borrelli, F., et al., Effect of bisacodyl and cascara on growth of aberrant crypt foci and malignant tumors in the rat colon. Life Sci, 2001. 69(16): p. 1871-7.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA