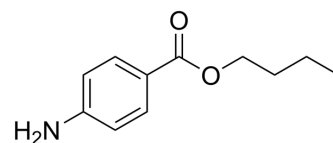


Butamben

Cat. No.:	HY-B1430		
CAS No.:	94-25-7		
Molecular Formula:	C ₁₁ H ₁₅ NO ₂		
Molecular Weight:	193.24		
Target:	Potassium Channel; Calcium Channel; Sodium Channel		
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling		
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 (517.49 mM)
 H₂O : < 0.1 mg/mL (insoluble)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		5.1749 mL	25.8746 mL	51.7491 mL
	5 mM		1.0350 mL	5.1749 mL	10.3498 mL
	10 mM		0.5175 mL	2.5875 mL	5.1749 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 (12.94 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (12.94 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (12.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Butamben (Butyl 4-aminobenzoate) results in long-lasting relief from pain, without impairing motor function or other sensory functions^{[1][2]}.

IC₅₀ & Target

Calcium Channel^[2]
 Sodium Channel^[3]

In Vitro	Butamben (500 μ M) blocks 90% of the control barium current, and this level is reached within 4 min in PC12 cells ^[2] . Butamben (100 μ M; 2-10 min) increases the inactivation of the fast Na ⁺ channels, but not of the slow Na ⁺ channels ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Butamben (0.5-50 mM; the distal portion of the tail was immersed for 2 min) has an S-shape dose-dependent analgesic activity in the radiant heat tail-flick assay of mice ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Cereda CM, et al. Liposomal butamben gel formulations: toxicity assays and topical anesthesia in an animal model. *J Liposome Res.* 2017 Mar;27(1):74-82.
- [2]. Rampaart LJA, et, al. The local anesthetic butamben inhibits total and L-type barium currents in PC12 cells. *Anesth Analg.* 2008 Jun;106(6):1778-83.
- [3]. Kolesnikov YA, et, al. Analgesic synergy between topical morphine and butamben in mice. *Anesth Analg.* 2003 Oct;97(4):1103-7, table of contents.
- [4]. Berg RJV, et, al. The local anesthetic n-butyl-p-aminobenzoate selectively affects inactivation of fast sodium currents in cultured rat sensory neurons. *Anesthesiology.* 1995 Jun;82(6):1463-73.
-

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

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