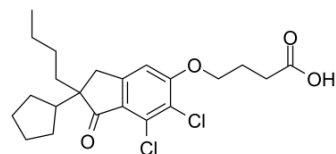


DCPIB

Cat. No.:	HY-103371		
CAS No.:	82749-70-0		
Molecular Formula:	C ₂₂ H ₂₈ Cl ₂ O ₄		
Molecular Weight:	427.36		
Target:	Chloride Channel; Potassium Channel		
Pathway:	Membrane Transporter/Ion Channel		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 125 mg/mL (292.49 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.3399 mL	11.6997 mL	23.3995 mL
	5 mM	0.4680 mL	2.3399 mL	4.6799 mL
	10 mM	0.2340 mL	1.1700 mL	2.3399 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: ≥ 2.08 mg/mL (4.87 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: 2.08 mg/mL (4.87 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.08 mg/mL (4.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DCPIB is a selective, reversible and potent inhibitor of volume-regulated anion channels (VRAC). DCPIB voltage-dependently activates potassium channels TREK1 and TRAAK and inhibits TRESK, TASK1 and TASK3 (IC₅₀s of 0.14, 0.95, 50.72 μM, respectively)^[1]. DCPIB is also a selective blocker of swelling-induced chloride current (I_{Cl,swell}), with an IC₅₀ of 4.1 μM in CPAE cells^[2].

IC₅₀ & Target

IC₅₀ 0.14 μM (TRESK), 0.95 μM (TASK1), 50.72 μM (TASK3)^[1], 4.1 μM (I_{Cl,swell}, CPAE cells)^[2]

REFERENCES

- [1]. Lv J, et al. DCPIB, an Inhibitor of Volume-Regulated Anion Channels, Distinctly Modulates K2P Channels. ACS Chem Neurosci. 2019 Apr 17.
- [2]. Decher N, et al. DCPIB is a novel selective blocker of I(Cl,swell) and prevents swelling-induced shortening of guinea-pig atrial action potential duration. Br J Pharmacol. 2001 Dec;134(7):1467-79.
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Caution: Product has not been fully validated for medical applications. For research use only.

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