

**Product Name:** DCPIB

**Catalog No.:** 1540

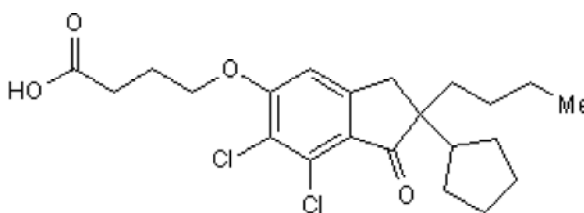
**Batch No.:** 3

CAS Number: 82749-70-0

IUPAC Name: 4-[(2-Butyl-6,7-dichloro-2-cyclopentyl-2,3-dihydro-1-oxo-1*H*-inden-5-yl)oxy]butanoic acid

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>22</sub>H<sub>28</sub>Cl<sub>2</sub>O<sub>4</sub>  
**Batch Molecular Weight:** 427.37  
**Physical Appearance:** White solid  
**Solubility:** ethanol to 100 mM  
**Storage:** Store at +4°C  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**TLC:** R<sub>f</sub> = 0.31 (Ethyl acetate:Petroleum ether [3:7])  
**HPLC:** Shows >99.2% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	61.83	6.6	
Found	61.57	6.74	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Volume-regulated anion channel (VRAC) blocker ( $IC_{50} \sim 2 \mu\text{M}$  in rat pancreatic  $\beta$ -cells). Also blocks  $I_{Cl,swell}$  in various cardiovascular tissues ( $IC_{50} = 4.1 \mu\text{M}$  in CPAE cells). Inhibits glucose-stimulated insulin secretion in intact  $\beta$ -cells via VSAC inhibition and indirect  $K_{ATP}$  channel activation. Reverses cell swelling-induced action potential duration shortening in atrial myocytes and inhibits astroglial swelling in vitro. Also activates TREK1 and TRAAK  $K^+$  channels and inhibits TRESK, TASK1 and TASK3  $K^+$  channels at  $10 \mu\text{M}$ , in vitro. Also inhibits VRAC-mediated 2'3'-cyclic-GMP-AMP (cGAMP) transport. Please see product datasheet on www.tocris.com for full description.

**Physical and Chemical Properties:**

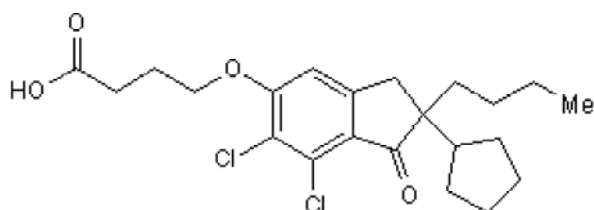
Batch Molecular Formula:  $C_{22}H_{28}Cl_2O_4$

Batch Molecular Weight: 427.37

Physical Appearance: White solid

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**References:**

**Lahey et al** (2020) LRRC8A:C/E heteromeric channels are ubiquitous transporters of cGAMP. *Mol.Cell.* . PMID: 33171122.

**Lv et al** (2019) DCPIB, an inhibitor of volume-regulated anion channels, distinctly modulates  $K_{2P}$  channels. *ACS.Chem.Neurosci.* **10** 2786. PMID: 30935201.

**Best et al** (2004) Inhibition of glucose-induced electrical activity in rat pancreatic  $\beta$ -cells by DCPIB, a selective inhibitor of volume-sensitive anion currents. *Eur.J.Pharmacol.* **489** 13. PMID: 15063150.

**Storage:** Store at  $+4^{\circ}\text{C}$

**Solubility & Usage Info:**

ethanol to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a  $45\text{-}60^{\circ}\text{C}$  water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at  $-20^{\circ}\text{C}$  or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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