

**Product Name:** DCPIB

**Catalog No.:** 1540

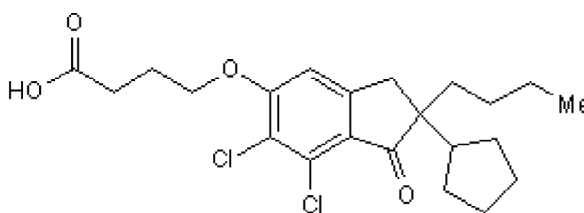
**Batch No.:** 5

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**

**HPLC:** Shows 99.6% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	61.83	6.6	
Found	61.84	6.59	

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

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**Description:**

DCPIB is a volume-regulated anion channel (VRAC) blocker ( $IC_{50} \sim 2 \mu M$  in rat pancreatic  $\beta$ -cells). Also blocks  $I_{Cl,swell}$  in various cardiovascular tissues ( $IC_{50} = 4.1 \mu M$  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  $10 \mu M$ , in vitro. Also inhibits VRAC-mediated 2'3'-cyclic-GMP-AMP (cGAMP) transport. Please see product specific page on www.tocris.com for full description.

**Physical and Chemical Properties:**

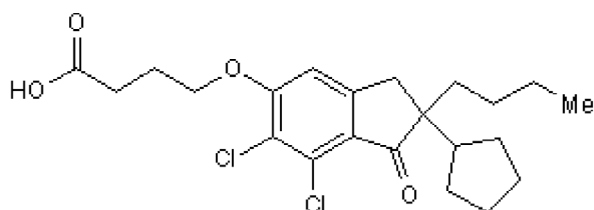
Batch Molecular Formula:  $C_{22}H_{28}Cl_2O_4$ .

Batch Molecular Weight: 427.37

Physical Appearance: White solid

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

**Batch Molecular Structure:**



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

**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  $45-60^{\circ}C$  water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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  $-20^{\circ}C$  or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Lahey et al** (2020) LRRC8A:C/E heteromeric channels are ubiquitous transporters of cGAMP. *Mol.Cell.* **80** 1. 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.

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**bio-techne.com**

info@bio-techne.com

techsupport@bio-techne.com

**North America**

Tel: (800) 343 7475

**China**

info.cn@bio-techne.com

Tel: +86 (21) 52380373

**Europe Middle East Africa**

Tel: +44 (0)1235 529449

**Rest of World**

www.tocris.com/distributors

Tel:+1 612 379 2956