bio-techne
TOCRIS

Print Date: May 31st 2023

Certificate of Analysis

www.tocris.com

Product Name: **DCPIB** **Catalog No.: 1540** **Batch No.: 4**

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: $C_{22}H_{28}Cl_2O_4$.

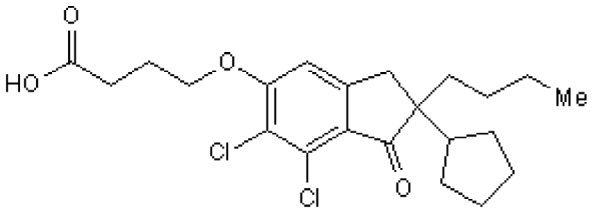
Batch Molecular Weight: 427.37

Physical Appearance: White solid

Solubility: ethanol to 100 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.9% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	61.83	6.6	
Found	61.86	6.5	

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Description:

DCPIB is a volume-regulated anion channel (VRAC) blocker (IC_{50} ~ 2 µM in rat pancreatic β-cells). Also blocks $I_{Cl,swell}$ in various cardiovascular tissues (IC_{50} = 4.1 µM in CPAE cells). Inhibits glucose-stimulated insulin secretion in intact β-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 µM, 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:

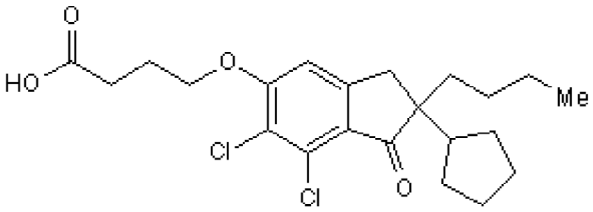
Batch Molecular Formula: $C_{22}H_{28}Cl_2O_4$.

Batch Molecular Weight: 427.37

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at +4°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°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°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 β-cells by DCPIB, a selective inhibitor of volume-sensitive anion currents. Eur.J.Pharmacol. ***489*** 13. PMID: 15063150.