

Certificate of Analysis

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Product Name: DPO-1

Catalog No.: 2533

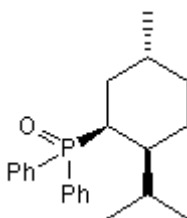
Batch No.: 2

CAS Number: 43077-30-1

IUPAC Name: [1S-(1 α ,2 α ,5 β)]-[5-Methyl-2-(1-methylethyl)cyclohexyl]diphenylphosphine oxide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₂₉OP
Batch Molecular Weight: 340.44
Physical Appearance: White solid
Solubility: ethanol to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.75 (Diethyl ether)
HPLC: Shows >99.3% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	77.62	8.59	
Found	77.7	8.61	

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

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Description:

Blocker of I_{Kur} ultrarapid delayed rectifier potassium current and $K_V1.5$ channels ($IC_{50} = 0.31 \mu M$ for $rK_V1.5$). Displays selectivity for inhibition of I_{Kur} over I_{to} (8-fold), I_{K1} , I_{Kr} and I_{Ks} (20-fold) in native myocytes and selectivity for rat recombinant $K_V1.5$ over $K_V3.1$ (~ 15-fold). Increases action potential duration in atrial but not ventricular myocytes and prevents atrial arrhythmia.

Physical and Chemical Properties:

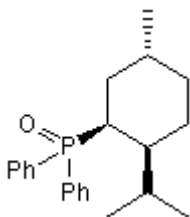
Batch Molecular Formula: $C_{22}H_{29}OP$

Batch Molecular Weight: 340.44

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



References:

Stump et al (2005) In vivo antiarrhythmic and cardiac electrophysiologic effects of a novel diphenylphosphine oxide I_{Kur} blocker (2-isopropyl-5-methylcyclohexyl) diphenylphosphine oxide. *J.Pharmacol.Exp.Ther.* **315** 1362. PMID: 16157659.

Regan et al (2006) In vivo cardiac electrophysiologic effects of a novel diphenylphosphine oxide I_{Kur} blocker, (2-isopropyl-5-methylcyclohexyl) diphenylphosphine oxide, in rat and nonhuman primate. *J.Pharmacol.Exp.Ther.* **316** 727. PMID: 16243963.

Lagrutta et al (2006) Novel, potent inhibitors of human $K_V1.5$ K^+ channels and ultrarapid activating delayed rectifier potassium current. *J.Pharmacol.Exp.Ther.* **317** 1054. PMID: 16522807.

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. 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°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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