TOCRIS
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Print Date: Feb 14th 2019

Certificate of Analysis

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Product Name: **Diphenyleneiodonium chloride** **Catalog No.: 0504** **Batch No.: 3**

CAS Number: 4673-26-1

IUPAC Name: [1,1'-Biphenyl]-2,2'-diyliodonium chloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{12}H_8ClI$

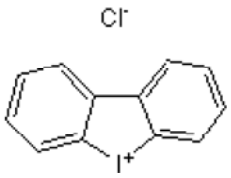
Batch Molecular Weight: 314.55

Physical Appearance: White solid

Solubility: DMSO to 10 mM

Storage: Desiccate at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.64 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])

Melting Point: Between 315 - 320°C

HPLC: Shows 99.9% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	45.82	2.56	
Found	46.19	2.91	

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Product Information

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CAS Number: 4673-26-1

IUPAC Name: [1,1'-Biphenyl]-2,2'-diyliodonium chloride

Description:

GPR3 agonist (EC_{50} = 1 μM); activates adenylate cyclase through GPR3 but not GPR6 or GPR12. Also induces Ca^{2+} mobilization and β-arrestin receptor internalization. Binds strongly to flavoproteins; inhibits several enzymes, including NO synthase, NADPH oxidases and NADPH cytochrome P450 oxidoreductase. Also inhibits platelet aggregation.

Physical and Chemical Properties:

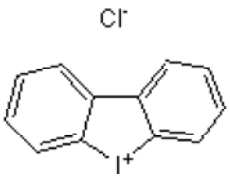
Batch Molecular Formula: $C_{12}H_8ClI$

Batch Molecular Weight: 314.55

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Desiccate at -20°C

Solubility & Usage Info:

DMSO to 10 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.

References:

Ye *et al* (2014) Identification of a novel small-molecule agonist for human G protein-coupled receptor 3. J.Pharmacol.Exp.Ther. ***349*** 437. PMID: 24633425.

Tew (1993) Inhibition of cytochrome P450 reductase by the diphenyliodonium cation. Kinetic analysis and covalent modifications. Biochemistry ***32*** 10209. PMID: 8399148.

Wang *et al* (1993) Inhibitory actions of diphenyleneiodonium dependent vasodilations *in vitro* and *in vivo*. Br.J.Pharmacol. ***110*** 1232. PMID: 7507779.

Stuehr *et al* (1991) Inhibition of macrophage and endothelial cell nitric oxide synthase by diphenyleneiodonium and its analogs. FASEB J. ***5*** 98. PMID: 1703974.

Yea *et al* (1990) Purification and some properties of the 45 kDa diphenylene iodonium-binding flavoprotein of neutrophil NADPH oxidase. Biochem.J. ***265*** 95. PMID: 2154184.

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