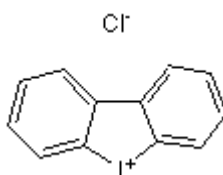


Product Name: Diphenyleneiodonium chloride
CAS Number: 4673-26-1
IUPAC Name: [1,1'-Biphenyl]-2,2'-diyliodonium chloride

Catalog No.: 0504 **Batch No.:** 3

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₂H₈ClI
Batch Molecular Weight: 314.55
Physical Appearance: White powder
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 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	45.82	2.56	
Found	46.19	2.91	

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

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Catalog No.: 0504 **Batch No.:** 3

Description:

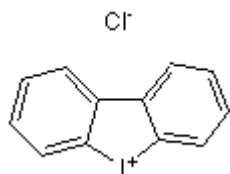
GPR3 agonist ($EC_{50} = 1 \mu M$); activates adenylate cyclase through GPR3 but not GPR6 or GPR12. Also induces Ca^{2+} mobilization and β -arrestin receptor internalization. Binds strongly to flavoproteins; inhibits several enzymes, including NO synthase, NADPH oxidases and NADPH cytochrome P450 oxidoreductase.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

Physical and Chemical Properties:

Batch Molecular Formula: $C_{12}H_8ClI$
 Batch Molecular Weight: 314.55
 Physical Appearance: White powder

Minimum Purity: >99%

Batch Molecular Structure:



References:

- 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.
- Stuehr et al** (1991) Inhibition of macrophage and endothelial cell nitric oxide synthase by diphenyleneiodonium and its analogs. *FASEB J.* **5** 98. PMID: 1703974.
- Wang et al** (1993) Inhibitory actions of diphenyleneiodonium dependent vasodilations *in vitro* and *in vivo*. *Br.J.Pharmacol.* **110** 1232. PMID: 7507779.
- Tew** (1993) Inhibition of cytochrome P450 reductase by the diphenyliodonium cation. Kinetic analysis and covalent modifications. *Biochemistry* **32** 10209. PMID: 8399148.
- 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.

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.

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