

Diphenyleneiodonium chloride

Catalog No: tcsc0020645



Available Sizes

Size: 10mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

4673-26-1

Formula:

$C_{12}H_8Cl$

Pathway:

Membrane Transporter/Ion Channel

Target:

TRP Channel

Purity / Grade:

>98%

Solubility:

DMSO : 6 mg/mL (19.07 mM; Need ultrasonic and warming)

Alternative Names:

DPI

Observed Molecular Weight:

314.55

Product Description

Diphenyleneiodonium chloride is a **NADPH oxidase (NOX)** inhibitor and also functions as a **TRPA1** activator with an **EC₅₀** of 1 to 3 μM .

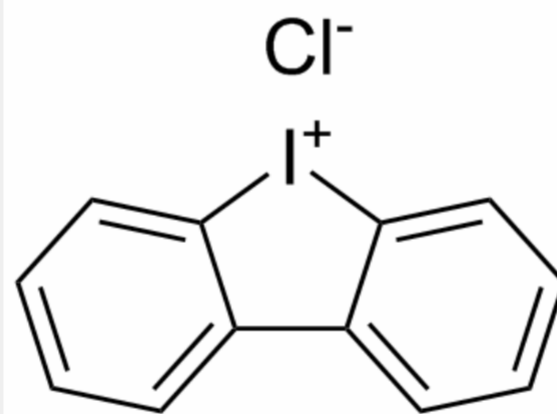
IC₅₀ & Target: NOX^[1]

EC₅₀: 1 to 3 μM (TRPA1)^[1]

In Vitro: Diphenyleneiodonium chloride is a NADPH oxidase (NOX) inhibitor and also functions as a TRPA1 activator with an EC₅₀ of 1 to 3 μM . Application of Diphenyleneiodonium chloride to HEK-TRPA1 cells at a concentration ranges of 0.03 to 10 μM effectively induces a Ca²⁺ response. However, Diphenyleneiodonium chloride fails to evoke a Ca²⁺ response in control HEK cells, even at a relatively high dose of 10 μM ^[1]. When Diphenyleneiodonium chloride is included in the co-cultures, lipopolysaccharide (LPS)-induced preOL apoptosis is significantly inhibited. Treatment with Diphenyleneiodonium chloride is found to significantly attenuate the LPS-induced O₂⁻ production by 2.0-fold, reducing it to within 27% of the controls^[2].

In Vivo: Intraplantar injection of 2 mM Diphenyleneiodonium chloride to the hindpaw causes licking or biting behavior^[1].

Diphenyleneiodonium chloride treatment immediately or 24 h after lipopolysaccharide (LPS) injection significantly attenuates the LPS-induced loss of O4 positive cells. Treatment with Diphenyleneiodonium chloride either immediately or 24 h after LPS injection significantly ameliorates the LPS-induced disorganization of the white matter nerve fibers. However, treatment with DPI 48 h after LPS injection does not appear to correct the LPS-induced white matter damage. DPI treatment either immediately or 24 h after LPS injection significantly reduces the accumulation of both gp91phox and p67phox in the membrane fraction^[2].



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