Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Diphenyleneiodonium chloride

Catalog No: tcsc0020645

Available Sizes

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
4673-26-1

Formula:
$C_{12}H_8ClI$

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

Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Diphenyleneiodonium chloride is a **NADPH oxidase** (**NOX**) inhibitor and also functions as a **TRPA1** activator with an **EC_{50}** 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 EC_{50} 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 Ca^{2+} response. However, Diphenyleneiodonium chloride fails to evoke a Ca^{2+} 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 O_2^- 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].