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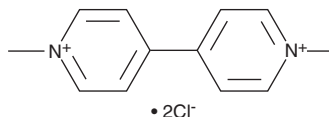
PRODUCT INFORMATION



Paraquat (chloride)

Item No. 38521

CAS Registry No.: 1910-42-5
Formal Name: 1,1'-dimethyl-4,4'-bipyridinium, dichloride
Synonym: Methyl Viologen
MF: $C_{12}H_{14}N_2 \cdot 2Cl$
FW: 257.2
Purity: $\geq 95\%$
Supplied as: A solid
Storage: $-20^\circ C$
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Paraquat (chloride) is supplied as a solid. Aqueous solutions of paraquat (chloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of paraquat (chloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Paraquat is an herbicide.¹ It induces light-dependent apoptosis and reduces chlorophyll levels in tobacco leaf discs when applied at a concentration of 10 μM . Paraquat (0.05, 0.1, and 0.2 kg/ha) eliminates susceptible barley grass but not the paraquat-resistant biotype in field studies.² It induces apoptosis, increases intracellular levels of nitric oxide (NO), and increases expression of mRNA encoding inducible nitric oxide synthase (iNOS) in SH-SY5Y neuroblastoma cells when administered at a concentration of 100 μM .³ Paraquat is toxic to rats (LD_{50} s = 115 and 21 mg/kg for p.o. and i.v. administration, respectively).⁴ Intracerebroventricular administration of paraquat (100 nmol/animal) induces neuronal cell death and seizures, effects that can be inhibited by the antioxidant U-74389G (Item No. 75860), in rats.⁵ It induces weight loss, lung hemorrhage and edema, and diarrhea in rats when administered at a dose of 20 mg/kg.⁴ Formulations containing paraquat have been used in the control of plants in agriculture, commercial, and residential settings.

References

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2. Powles, S.B. Appearance of a biotype of the weed, *Hordeum glaucum* Steud., resistant to the herbicide paraquat. *Weed Res.* **26**, 167-172 (1986).
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4. Sharp, C.W., Ottolenghi, A., and Posner, H.S. Correlation of paraquat toxicity with tissue concentrations and weight loss of the rat. *Toxicol. Appl. Pharmacol.* **22**(2), 241-251 (1972).
5. Bagetta, G., Iannone, M., Vecchio, I., et al. Neurodegeneration produced by intrahippocampal injection of paraquat is reduced by systemic administration of the 21-aminosteroid U74389F in rats. *Free Radic. Res.* **21**(2), 85-93 (1994).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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