

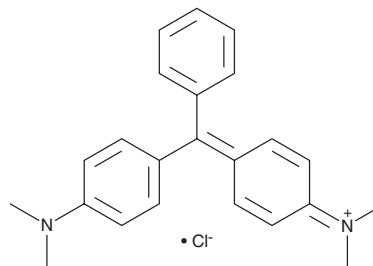
PRODUCT INFORMATION



Malachite Green (chloride)

Item No. 37395

CAS Registry No.: 569-64-2
Formal Name: N-[4-[[4-(dimethylamino)phenyl]phenylmethylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-methanaminium, monochloride
Synonyms: Basic Green 4, C.I. 4200, C.I. 42000
MF: C₂₃H₂₅N₂ • Cl
FW: 364.9
Purity: ≥95%
UV/Vis.: λ_{max}: 622 nm
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Malachite green (chloride) is supplied as a solid. A stock solution may be made by dissolving the malachite green (chloride) in the solvent of choice, which should be purged with an inert gas. Malachite green (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of malachite green (chloride) in ethanol is approximately 0.5 mg/ml and approximately 1 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of malachite green (chloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of malachite green (chloride) in PBS (pH 7.2) is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Malachite green is a triphenylmethane dye.¹ It inhibits the proliferation of HEP-2 human larynx cells (IC₅₀ = 2.06 μM). Malachite green is cytotoxic to HEP-2 cells and Caco-2 human colorectal adenocarcinoma cells (IC₅₀s = 2.03 and 13.8 μM, respectively). It reduces fungal infection in, and increases hatching rates of, rainbow trout eggs when used at a concentration of 2 μg/ml for 60 minutes twice a week.² Malachite green has been used as a biochemical indicator dye for titrations, pH indicators, and counterstains in histology applications.³⁻⁶ Formulations containing malachite green have been used in the textile and pigment industries as dyes.

References

1. Stamatii, A., Nebbia, C., De Angelis, I., *et al.* Effects of malachite green (MG) and its major metabolite, leucomalachite green (LMG), in two human cell lines. *Toxicol. In Vitro* **19(7)**, 853-858 (2005).
2. Kitancharoen, N., Yamamoto, A., and Hatai, K. Effects of sodium chloride, hydrogen peroxide and malachite green on fungal infection in rainbow trout eggs. *Biocontrol Sci.* **3(2)**, 113-115 (1998).
3. Tuthill, S.M., Kolling, O.W., and Roberts, K.H. Photometric and visual titration of certain alkaloids in glacial acetic acid using malachite green as indicator. *Anal. Chem.* **32(12)**, 1678-1681 (1960).
4. Decnop-Weever, L.G. and Kraak, J.C. Determination of sulphite in wines by gas-diffusion flow injection analysis utilizing spectrophotometric pH-detection. *Analytica Chimica Acta* **337**, 125-131 (1997).
5. Dutton, R.J., Bitton, G., and Koopman, B. Malachite green-INT (MINT) method for determining active bacteria in sewage. *Appl. Environ. Microbiol.* **46(6)**, 1263-1267 (1983).

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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