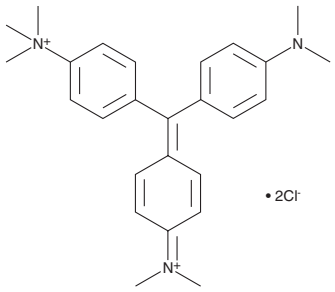
PRODUCT INFORMATION

Methyl Green

Item No. 44933

CAS Registry No.: 82-94-0
Formal Name: 4-[[4-(dimethylamino)phenyl][4-(dimethyliminio)-2,5-cyclohexadien-1-ylidene]methyl]-N,N,N-trimethyl-benzenaminium, dichloride
Synonyms: C.I. 42585, Double Green SF, Light Green
MF: $C_{26}H_{33}N_3 \bullet 2Cl$
FW: 458.5
Ex./Em.: 633/682 nm, respectively, in the presense of DNA
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Light sensitive



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

Laboratory Procedures

Methyl green is supplied as a solid. A stock solution may be made by dissolving the methyl green in the solvent of choice, which should be purged with an inert gas. Methyl green is sparingly soluble (1-10 mg/ml) in DMSO.

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 methyl green can be prepared by directly dissolving the solid in aqueous buffers. Methyl green is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Methyl green is a triphenylmethane dye.[1,2] It displays an excitation maximum of 633 nm in the presence or absence of DNA and an emission maximum of 682 nm only in the presence of DNA.[2] Methyl green has commonly been used to distinguish DNA from RNA when used in combination with pyronin Y (Item No. 14488) and as a histological and cell viability stain.[1,2] It has been found in wastewater.[3]

References

1. Lyon, H., Schulte, E., de Leenheer, A., *et al.* Dye standards, Part II. 2: Methyl green (CI 42585) and ethyl green (CI 42590). *Histochem J.* **24(4)**, 224-227 (1992).
2. Murgai, P., Sharma, P., Sachdeva, M.U.S., *et al.* A flow cytometric cell-cycle assay using methyl green. *Anal. Biochem.* **601**, 113782 (2020).
3. Ikram, M., Mutahir, S., Humayun, M., *et al.* Facile synthesis of ZIF-67 for the adsorption of methyl green from wastewater: Integrating molecular models and experimental evidence to comprehend the removal mechanism. *Molecules* **27(23)**, 8385 (2022).

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