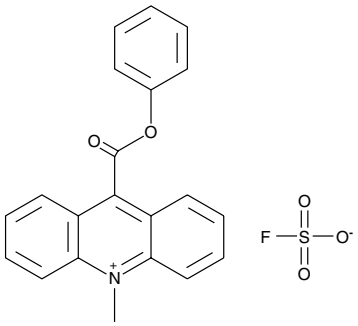
Product Information

10-methyl-9-(phenoxycarbonyl) Acridinium fluorosulfonate

Item No. 10007464

CAS Registry No.: 149300-54-9
Formal Name: 10-methyl-9-(phenoxycarbonyl)acridinium, fluorosulfate
Synonyms: PMAC
MF: $C_{21}H_{16}FNO_5S$
FW: 413.4
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 203, 261, 286, 367 nm



Laboratory Procedures

For long term storage, we suggest that 10-methyl-9-(phenoxycarbonyl) acridinium fluorosulfonate (PMAC) be stored as supplied at -20°C. It should be stable for at least one year.

PMAC is supplied as a crystalline solid. A stock solution may be made by dissolving the PMAC in an organic solvent purged with an inert gas. PMAC is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of PMAC in these solvents is at least 20 mg/ml.

PMAC is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PMAC should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. PMAC has a solubility of 0.15 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Acridinium esters can replace radioactive isotopes in numerous applications (e.g., immunoassays, antibody labeling, etc.).[1,2] Their sensitivity is comparable to radiolabeled reagents without the disposal issues associated with radioactive waste. 10-methyl-9-(phenoxycarbonyl) Acridinium fluorosulfonate (PMAC) is a sensitive tool for detection of reactive oxygen species (ROS).[3] When immobilized onto polymer microspheres, it can be phagocytized by cells and used as an internal ROS detector. The chemiluminescence of PMAC can be initiated using hypoxanthine/xanthine oxidase or hydrogen peroxide at physiological pH.

References

1. Weeks, I., Beheshti, I., McCapra, F., *et al.* Acridinium esters as high-specific-activity labels in immunoassay. *Clin. Chem.* **29**, 1474-1479 (1983).
2. Weeks, I., Sturgess, M., Brown, R.C., *et al.* Immunoassays using acridinium esters. *Methods Enzymol.* **133**, 366-387 (1986).
3. Hosaka, S., Itagaki, T., and Kuramitsu, Y. Selectivity and sensitivity in the measurement of reactive oxygen species (ROS) using chemiluminescent microspheres prepared by the binding of acridinium ester of ABEI to polymer microspheres. *Luminescence* **14**, 349-354 (1999).

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Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com