5(6)-Carboxyfluorescein

Item No. 17172

CAS Registry No.: 72088-94-9
Formal Name: 3',6'-dihydroxy-3-oxo-spiro[isobenzofuran-1(3H),9'-[9H]xanthene]-ar-carboxylic acid
Synonym: 5(6)-FAM
MF: C_{21}H_{12}O_{7}
FW: 376.3
Purity: ≥90%
UV/Vis.: \(\lambda_{\text{max}}^{\text{E}}\) 209, 225, 277 nm
Ex./Em. Max: 492/514 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

5(6)-Carboxyfluorescein is supplied as a crystalline solid. A stock solution may be made by dissolving the 5(6)-carboxyfluorescein in the solvent of choice. 5(6)-Carboxyfluorescein is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 5(6)-carboxyfluorescein in these solvents is approximately 5, 0.5, and 1 mg/ml, respectively.

5(6)-Carboxyfluorescein is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 5(6)-carboxyfluorescein should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 5(6)-Carboxyfluorescein has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

5(6)-Carboxyfluorescein is a mixture of 5-carboxy and 6-carboxy derivatives of fluorescein. It is commonly used to label biomolecules through a reaction involving the carboxyl group.\(^1\) Unlike its succinimidyl ester derivative CFSE (Item No. 14456), 5(6)-carboxyfluorescein is membrane impermeant. As a result, it can be used in studies of membrane permeability.\(^2\) 5(6)-Carboxyfluorescein displays excellent fluorescence (excitation/emission at 492/514 nm, respectively), and its excitation maximum closely matches the 488 nm spectral line of argon-ion lasers.

References