
Product Data Sheet

Product Name: Fluorescein

Cat. No.: GC30141

Chemical Properties

Cas. No. 2321-07-5

SMILES O=C1OC2(C3=C(OC4=C2C=CC(O)=C4)C=C(O)C=C3)C5=C1C=CC=C5Formula C₂₀H₁₂O₅

M.Wt 332.31

Solubility DMSO : 250 mg/mL (752.31 mM) Storage 4°C, protect from light

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Background**

Fluorescein is a low-molecular-weight synthetic dye that absorbs blue light at 470–490nm and fluoresces green-yellow at 520–530nm^[1]. Fluorescein can reversibly toggle among four interconvertible ionic states depending on pH: cation, neutral, monoanion and dianion. Each state possesses a distinct, non-overlapping absorption maximum (490nm, 472/453nm, 434nm, 437nm), enabling its use as a four-state, reversible molecular switch^[2]. Fluorescein's absorption maxima, fluorescence spectra, and protolytic equilibria are also temperature-dependent. After the temperature rises between 4°C to 80°C, the absorption peak of fluorescein shifts slightly to the red, its acidity weakens, and both the overall spectrum and ionization equilibrium will change slightly^[3].

References:

[1] Kawahara A, Hikichi T, Kitaya N, et al. Adenosine agonist regulation of outward active transport of Fluorescein across retinal pigment epithelium in rabbits. *Exp Eye Res.* 2005 Apr;80(4):493-9.

[2] Margulies D, Melman G, Shanzer A. Fluorescein as a model molecular calculator with

Caution: Product has not been fully validated for medical applications. For research use only.

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reset capability. Nat Mater. 2005 Oct;4(10):768-71.

[3] Sjöback R, Nygren J, Kubista M, et al. Absorption and fluorescence properties of fluorescein. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy

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