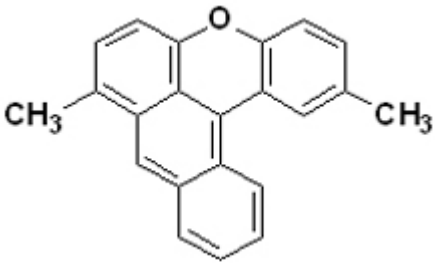
FT-1J8050

Fluorol Yellow 088

A lipophilic fluorochrome

Product Description

Name :	**Fluorol Yellow 088** Syn: Solvent Green 4 ; 2,8-dimethylnaphtho[3,2,1-kl]xanthene
Catalog Number :	**FP-1J8050**, 5g
	Formula: $C_{22}H_{16}O$ CAS: 81-37-8 EC Number 201-345-1 MDL No.: MFCD00083335
Properties :	**MW**= 296.36 g/mol **Solubility:** DMSO, DMF, Acetonitrile, Ethyl Acetate and Chloroform; poorly soluble in water **Absorption / Emission :** $\lambda_{exc}\backslash\lambda_{em}$ (MeOH) = 450 / 515 nm **EC** (M^{-1} cm^{-1}) : 10 5000 cm^{-1} M^{-1}
Storage:	Room temperature; Protect from light and moisture



Melting point: 190.26C (predicted
Ebulition point; 512.52°C at 760mmHg
Refraction Inidice:n^{20}_{D} 1.73 (Predicted)
Density: 1.23 g/cm^3 (Predicted)

Technical and scientific information

This product is used as a lipophilic fluorochrome, notably for cell staining of suberin lamellae in plant tissue (Brundret 1991). Protocol may be found in the literature.

Guide line for use - Fluorol Yellow Staining (Suberin Staining) (r)

Adapted from: Lux A, Morita S, Abe J, Ito K, 2005.An improved method for clearing and stainingfree-hand sections and whole-mount samples. Ann Bot (Lond) 96:989–996.

● Fluorol Yellow Staining (Suberin Staining)

1. Vertically grown (in ½ MS-agar plates) 5-days old seedlings are incubated in afreshly prepared solution of Fluorol Yellow 088 (0.01%w/v, in lactic acid) at 70°C for 30min.

2.Rinse them in water (three baths of 5min each).

3.Counter-staining is done with aniline blue (0.5% w/v, in water) at room temperature for 30min in darkness.4.Washed the samples in water for, at least,30min (change the bath to fresh water every 10 minutes).

5.Mount on slides using glycerol 50% prior to microscope examination.

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Remarks:

• Always use a freshly prepared solution of Fluorol Yellow.
• Use 12-wells microtiter plates for incubations.
• Avoid squeezing roots, use featherweight forceps.

● Microscopy and Quantitative Analysis:

Use a wide-field microscope with a standard GFP filter to observe Fluorol Yellow.

Remarks:

• After staining, keep samples in the dark.• Do not use samples 3 hours after preparation, as the fluorescent signalmay leak into the xylem.
• Do not keep the seedling under fluorescence for longer than 20 minutes, as Fluorol Yellow is easily bleached.

● Counting:

Wash seedlings several times in water in order to eliminate the counter-staining (Aniline blue). Otherwise, it is impossible to count as counterstaining turns the root dark blue and cells are no longer visible. It is not easy to count cells even after thorough washing. Nevertheless, it is possible to know the borders of cells knowing approximately the average length of endodermal cells. Errors are unavoidable, but with training one can get reproducible results with a reasonable error.In order to count the endodermal cells, it is easier to go to the point where the FluorolYellow signal appears under GFP conditions and switch to bright field or DIC optics tocount the number of cells from this point towards the root tip until the first cell of theelongation zone.

Remarks:

When counting, “Onset of elongation” was defined as the point where endodermal cells ina median optical section are clearly more than twice the width of the previous cell. The Fluorol Yellow signal initially shows a “patchy” appearance, which at one point turns into a continuous signal, where all endodermal cells are stained. It is better to count both areas, the patchy signal and the onset of a continuous signal.

References

- Efficient lipid staining in plant material with sudan red 7B or fluorol [correction of fluoral] yellow 088 in polyethylene glycol-glycerol. - M C Brundrett et. Al
Biotechnic and Histochemistry, 66(3), 111-116 (1991). Article

Polyethylene glycol (400) with 90% glycerol (aqueous) is introduced as an efficient solvent system for lipid stains. Various lipid-soluble dyes were dissolved in this solvent system and tested for their intensity, contrast, and specificity of staining of suberin lamellae in plant tissue. The stability (i.e., lack of precipitation) of the various staining solutions in the presence of fresh tissue was also tested. When dissolved in polyethylene glycol-glycerol, Sudan red 7B (fat red) was the best nonfluorescent stain and fluorol yellow 088 (solvent green 4) was an excellent fluorochrome. These two dyes formed stable staining solutions which efficiently stained lipids in fresh sections without forming precipitates. Estimations of the solubilities of these dyes in the solvent compared with their solubilities in lipids of various chemical types indicated that they should both be effective stains for lipids in general.

Ordering information

Catalog size quantities and prices may be found at http://www.interchim.com.
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

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