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Product Information

FSL-Fluorescein
Catalog Number **F1058**

Storage Temperature –20 °C

Synonyms: FSL-FLRO4(fluorescein)-SA2-L1

Product Description
Molecular formula: $C_{73}H_{109}N_4O_{15}PS$
Molecular weight: 1345.70
Packaged as 1 mg FSL-Fluorescein with 0.42 mg sodium bicarbonate to improve solubility.

FSL-Fluorescein is a KODE™ technology construct designed to label hydrophobic surfaces including living cells with fluorescein. All KODE FSL constructs consist of three essential designable features:

- functional component (F)
- spacer (S)
- diacyl lipid (L)

FSL-Fluorescein is comprised of a fluorescein residue representing F, conjugated via a spacer (SA2) to an activated adipate derivative of dioleoylphosphatidyl-ethanolamine (L1). All FSL constructs disperse in biocompatible media and spontaneously and stably incorporate into cell membranes. Cells modified with KODE constructs are known as kodecytes[1] and usually maintain their normal vitality and functionality.

FSL-Fluorescein has been specifically designed to insert into the membranes of live cells, labeling the membrane with fluorescein. The FSL constructs will remain in active cell membranes for up to 12 hours and indefinitely in inactive membranes (such as red cells) in serum-free media.
Note: Rapid photoquenching may occur with some cell types.

FSL-Fluorescein can also be used to modify other hydrophobic surfaces including fixed cells and solid phase surfaces. Fluorescent kodecytes can be visualized at the approximate absorbance wavelength of 488 nm and emission at 518 nm.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Handling of the product should be done in low light conditions with all samples being protected from light with aluminum foil covers to prevent photobleaching.

A Stock Solution is prepared by reconstituting the product at a concentration of 2 mg/ml in saline or PBS. Buffered solutions are preferred for long-term storage. The product should not be reconstituted in water, unless used immediately as product is unstable when stored in water.

The 2 mg/ml Stock Solution can be frozen in aliquots for later usage. Thawed product should be briefly sonicated before use. The Stock Solution can be diluted in buffers containing protein. The Stock Solution should not be diluted in buffers containing lipids (e.g. serum) or other hydrophobic products as the FSL will associate with this material and insertion into cells will be reduced.

Storage/Stability
Store unopened product at –20 °C. Store the Stock Solution in aliquots at –20 °C. Avoid repeated freezing and thawing of solutions. Solutions in PBS, pH 7, can be stored at 2-8 °C for up to 2 weeks.

Procedure
Cell labeling – Add 1 volume of FSL-Fluorescein Working Solution (10-100 µg/ml diluted in PBS) to 1 volume of cells. Incubate in dark conditions for 1 hour (incubation range 5 minutes–24 hours) at a temperature of 37 °C (temperature range 4-37 °C) to allow molecules to spontaneously insert into cell membranes. Wash cells up to 3 times with PBS or other appropriate buffer to remove unattached FSL-Fluorescein.

Rate of FSL insertion is primarily determined by FSL concentration, incubation time, and temperature.

References

1. Henry, S.M., Modification of red blood cells for laboratory quality control use. *Curr. Opin. Hematol.*, **16**, 467-472 (2009).

Related Product
FSL-Biotin, Catalog Number F9182, for use with avidin and streptavidin conjugates.

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