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Product Information

FSL-Le^a(tri)

Catalog Number **F9682**
Storage Temperature –20 °C

Synonym: FSL-LEA(GALb3[Fa4]GLCNb)-SA1-L1

Product Description
Molecular formula: $C_{70}H_{125}N_3NaO_{25}P$
Molecular weight: 1462.71

FSL-Le^a(tri) is a KODE™ technology construct designed to label hydrophobic surfaces, including living cells, with the Lewis blood group Le^a trisaccharide. All KODE FSL constructs consist of three essential designable features:

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

FSL-Le^a(tri) is comprised of the Lewis blood group Le^a trisaccharide Galβ3(Fucα4)GlcNAcβ representing F, conjugated via an O(CH$_2$)$_3$NH spacer (SA1) 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-Le^a(tri) has been specifically designed to insert into the membranes of live cells, labeling the membrane with the Lewis blood group Le^a antigen. 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 medium.

FSL-Le^a(tri) can also be used to modify other hydrophobic surfaces including fixed cells and solid phase surfaces. This product can be used to attach reproducible and controlled levels of blood group Le^a antigens to erythrocytes.[2] These kodecytes will react with most anti-Le^a blood grouping reagents including polyclonal reagents. Le^a-kodecytes will also react with monoclonal anti-Le^b as these reagents also cross-react with Le^a.[2]

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
A Stock Solution is prepared by reconstituting the product at a concentration of 1 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 the product is unstable when stored in water.

The 1 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 components 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-Le^a(tri) Working Solution (1–50 μg/ml diluted in PBS) to 1 volume of cells. Incubate for 2 hours (incubation range 1–12 hours) at a temperature of 37 °C (temperature range 4–37 °C) to allow molecules to spontaneously insert into cell membranes. Wash with PBS or other appropriate buffer (may be optional). Store kodecytes in serum free medium.
Note: 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).
2. Frame, T. et al., Synthetic glycolipid modification of red blood cell membranes. Transfusion, **47**, 876-82 (2007).

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