DEVELOPMENT OF A FLUORESCEIN-BASED LABEL FOR SIMPLE AND SELECTIVE LABELLING OF OLIGOSACCHARIDES

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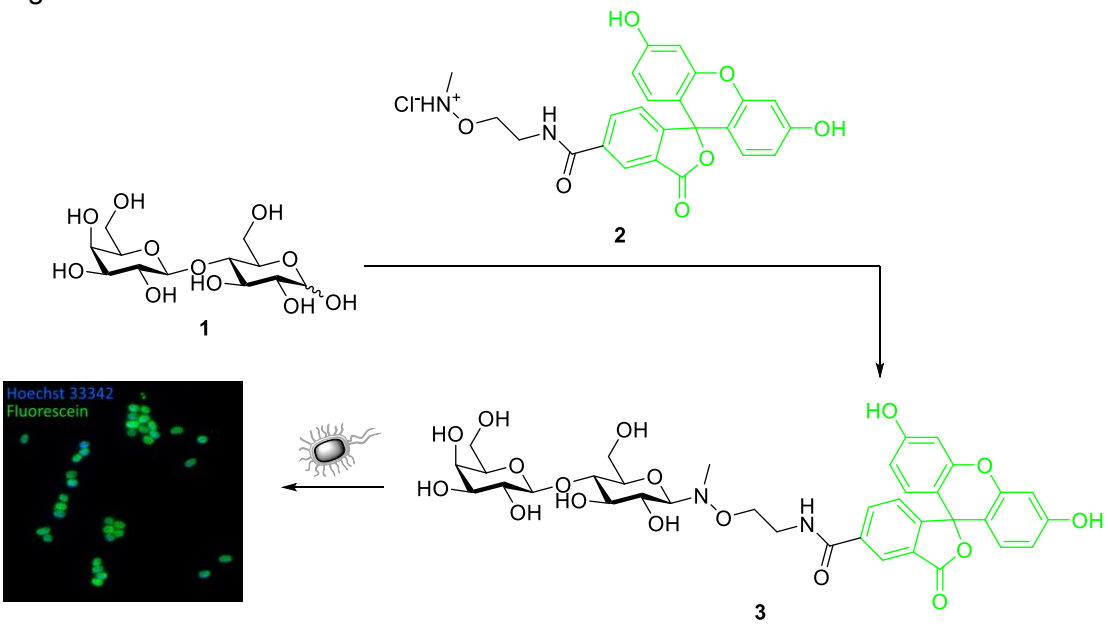
Fluorescence labelling is a useful tool for investigating carbohydrate-cell interactions, such as metabolic uptake or carbohydrate-lectin binding. Two approaches are mostly used to generate labeled carbohydrates: (1) Statistical labeling of a random hydroxyl-group, leading to complex product mixtures and difficult purification and (2) reductive amination of the reducing end, leading to linearization which may impact the interaction with probed organism. To minimize the loss of precious oligosaccharides, we developed a fluorescein-based label **2**, which can be ligated selectively to the reducing end of the oligosaccharide in a single step without requiring any protective groups to form non-linearized labeled oligosaccharides. The synthesis of the labels as well as the labeling of oligosaccharides can be done on gram-scale, allowing for a wide range of screening. Fluorescence microscopy was then used to examine Gram-positive and Gram-negative bacterial strains after they were exposed to the labeled oligosaccharides.



1 **2** **3**