CREATIVE BIOMART®
Assay Kit

Fluorescent Cellulase Assay Kit

Product Information

Cat.No. Kit-1676

Product Overview

Cellulases are a family enzymes that include ß-Glucosidases, endoglucanases, and exoglucanases. These enzymes cleave the ß-1,4-D-glycosidic bonds that link the glucose units comprising cellulose. In addition to being produced by plants, cellulase activity is found in many fungi and bacteria, including some plant pathogens. Most animal cells are not known to produce cellulase; cellulolytic activity is often carried out in animals by symbionts. However, recent evidence does suggest cellulase production in some animals, such as insects and arthopods. The study of cellulase activity has many applications in plant molecular biology, agriculture, and manufacturing. Cellulase is also becoming important in the development of alternative fuel sources, as glucose obtained from cellulose hydrolysis is easily fermented into ethanol. Activity of most cellulases can be monitored using our long wavelength fluorescent substrate, Resorufin Cellobioside, contained in the kit. Upon cleavage, the fluorescent compound, Resorufin is released and activity measurements are easily obtained in a microtiter plate based assay format. The kit contains enough substrate for 200 assays and control experiments (100 μL reaction volume) and also contains reference standards and a detailed protocol for use. See the references below for more information and applications.

Applications

Allows fast and easy detection of most cellulases in a microtiter plate based assay format. Cellulase assays are widely used in the biofuels industry.

Storage

The substrate reagent and reference standard included in this kit should be kept cold when not in use and stored at -20˚C. Protect solutions of the substrate reagent and reference standard from light.

Kit Components

A.) Substrate Reagent: 5mM Resorufin Cellobioside in Dimethyl sulfoxide (DMSO). Dilute to 0.5mM for use in the assay protocol below. B.) Reference Standard: 5mM Resorufin in Dimethyl sulfoxide (DMSO). Dilute to desired concentration using supplied DMSO and reaction buffer. C.) Reaction

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Buffer D.) Stop Buffer E.) Dimethyl Sulfoxide

Detection method Fluorescence

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