

Beta Galactosidase Detection Kit (Fluorometric)

ab176721

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Overview

Product name	Beta Galactosidase Detection Kit (Fluorometric)
Detection method	Fluorescent
Sample type	Adherent cells, Suspension cells
Assay type	Cell-based (quantitative)
Sensitivity	>= 0.3 mU/well
Assay time	0h 30m
Species reactivity	Reacts with: Mammals, Other species
Product overview	Beta Galactosidase Detection Kit (Fluorometric) (ab176721) uses the fluorogenic fluorescein digalactoside (FDG) galactosidase substrate that can sensitively distinguish LacZ+ from LacZ- cells. The non-fluorescent substrate generates the strongly fluorescent fluorescein upon reaction with galactosidase. It can be used either for detecting galactosidase conjugates in ELISA type assay systems or for monitoring LacZ gene expression in cells. FDG used in the kit is not fluorescent. The galactosidase induced cleavage of FDG gives fluorescein that has the spectra of Ex/Em = 490/515 nm, which can be detected with most fluorescence instruments equipped with a FITC filter set. The kit comes with all the essential components with an optimized assay protocol. It can be used with a fluorescence microplate reader or a fluorescence microscope. It might also be used for screening galactosidase inhibitors or inducers.
Platform	Microplate reader, Fluorescence microscope

Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	500 tests
Beta-mercaptoethanol	1 x 500µl
DMSO	1 x 500µl
Fluorescein di-β-D-Galactopyranoside (FDG)	1 vial

Components	500 tests
Lysis Buffer	1 x 25ml
Reaction Buffer	1 x 50ml
Stop Buffer	1 x 25ml

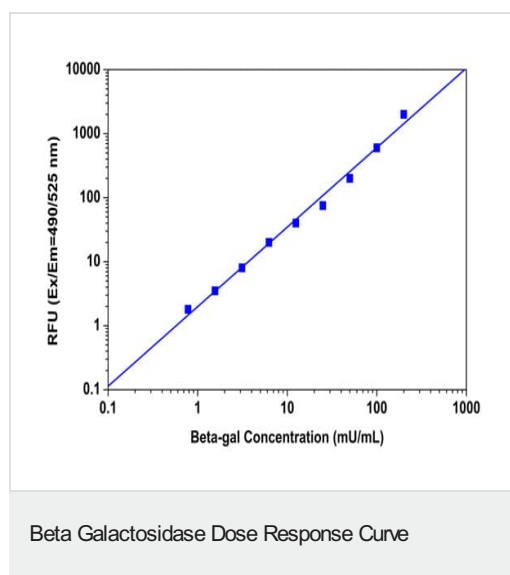
Relevance

Beta galactosidase is a hydrolase enzyme that cleaves beta-linked terminal galactosyl residues from gangliosides, glycoproteins, and glycosaminoglycans. Beta galactosidase is an essential enzyme in the human body. Deficiencies in the protein can result in galactosialidosis or Morquio B syndrome. Senescent cells display senescence-associated expression of beta galactosidase activity.

Cellular localization

Isoform 1: Lysosome. Isoform 2: Cytoplasm, perinuclear region. Note=Localized to the perinuclear area of the cytoplasm but not to lysosomes.

Images



Beta Galactosidase dose response was measured with Beta Galactosidase Detection Kit (Fluorometric) (ab176721) in a black 96-well plate using a fluorescence microplate reader. As low as 0.3 mU Beta Galactosidase can be detected with 30 minutes incubation.

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