abcam

Product datasheet

Phagocytosis Assay Kit (Zymosan Substrate) ab211156

2 Images

Overview

Product name	Phagocytosis Assay Kit (Zymosan Substrate)
Detection method	Colorimetric
Sample type	Adherent cells
Assay type	Cell-based
Species reactivity	**Reacts with:** Mammals
Product overview	Phagocytosis Assay Kit ab211156 uses a Zymosan substrate to provide a robust system for screening TLR ligands, phagocytosis activators or inhibitors. The phagocytosis assay protocol uses pre-labeled Zymosan particles as a pathogen for triggering phagocytosis. The engulfed Zymosan particles react with a specific substrate to produce a colorimetric signal that can be detected by absorbance at 405 nm. External particles are blocked before the reaction with a blocking reagent, ensuring the signal is directly proportional to the amount of internalized particles. This format provides a quantitative, high-throughput method to accurately measure phagocytosis, and avoids subjective manual counting of Zymosan particles inside cells. Phagocytosis assay protocol summary: - add Zymosan substrate to cell cultures and incubate for 15 min to 2 hrs - remove culture medium, and wash cells - add fixation solution and incubate for 5 min and then wash cells - add blocking reagent and incubate for 60 min and then wash cells - add permeabilization solution and incubate for 5 min and then wash cells - add detection reagent and incubate for 60 min and then wash cells - add detection buffer and incubate for 10 min - add substrate and incubate for 5-20 min - add stop solution and analyze with plate reader
Notes	In mammals, phagocytosis by phagocytes (e.g., macrophages, dendritic cells, and neutrophils) is essential for a variety of biological events. Phagocytosis comprises a series of events, starting with the binding and recognition of particles by cell surface receptors, followed by the formation of actin-rich membrane extensions around the particle. Zymosan (Saccharomyces cerevisiae) is prepared from yeast cell wall and consists of protein-carbohydrate complexes. Zymosan is a commonly used pathogen in phagocytosis assays.

The kit is suitable for adherent phagocytes only.

Each 20 test kit provides sufficient quantities to perform 20, 10 or 5 tests in a 96-,48- or 24-well plate respectively. Each 96 tests kit provides sufficient quantities to perform 96, 48 or 24 tests in a 96-, 48- or 24-well plate respectively. Each 5 x 96 tests kit provides sufficient quantities to perform 5 x 96, 48 or 24 tests in a 96-, 48- or 24-well plate respectively.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

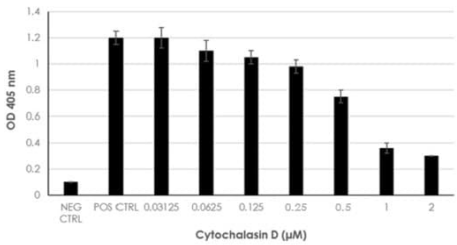
Platform Microplate reader

Properties

Storage instructions Store at +4°C. Please refer to protocols.

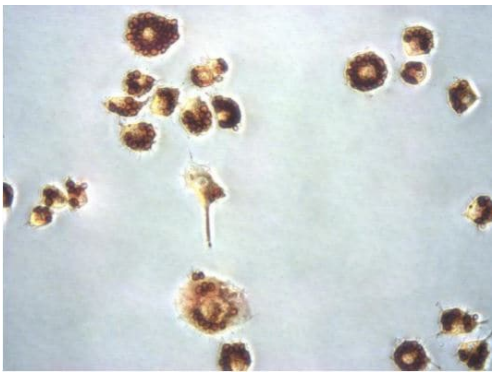
Components	1 x 96 tests
10X Permeabilization Solution	1 x 1.5ml
250X Detection Reagent	1 x 50µl
Blocking Reagent	1 x 200µl
Detection Buffer	1 x 10ml
Fixation Solution	1 x 20ml
Phagocytosis Inhibitor	1 x 20µl
Stop Solution	1 x 12ml
Substrate	1 x 12ml
Zymosan Suspension	1 x 1ml

Images



Inhibition of Raw 264.7 Macrophage Phagocytosis by Cytochalasin D

50,000 cells/well of Raw 264.7 macrophages were seeded overnight in a 96-well plate. Cytochalasin D was used to pretreat Raw 264.7 cells for 1 hr at 37ºC before addition of Zymosan at a ratio of 50:1 Zymosan particles per cell. Phagocytosis was stopped after 30 minutes and the amount of engulfed Zymosan particles was determined as described in the Assay Protocol.



Zymosan Particles Engulfment by Raw 264.7 Macrophage.

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