

# CytoSelect 96-well Phagocytosis Assay (Zymosan) Assay Kit

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CATALOG #  
AAA44546

## PRODUCT SYNONYMS

CytoSelect 96-well Phagocytosis Assay (Zymosan); CytoSelect 96-well Phagocytosis Assay (Zymosan) assay kit

## PRODUCT SPECIFICATIONS

### Preparation and Storage

Store all kit components at 4 degree C.

## IMAGES

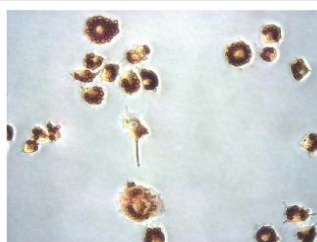
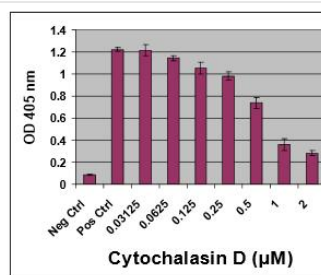
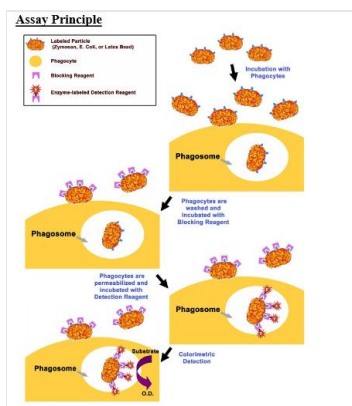


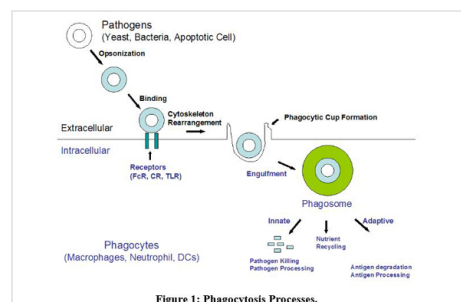
Figure 3. Zymosan Particles Engulfment by Raw 264.7 Macrophage.



Application Data



Application Data



## ADDITIONAL INFORMATION

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| <b>Related Product Information for CytoSelect 96-well Phagocytosis Assay (Zymosan) assay kit</b> | <p>Background/Introduction: In mammals, phagocytosis by phagocytes (e.g., macrophages, dendritic cells, and neutrophils) is essential for a variety of biological events, including tissue remodeling and the continuous clearance of dying cells. Furthermore, phagocytosis represents an early and crucial event in triggering host defenses against invading pathogens. 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. Fusion of the membrane extensions results in phagosome formation, which precedes phagosome maturation into a phagolysosome. Pathogens inside the phagolysosome are destroyed by lowered pH, hydrolysis, and radical attack (Figure 1). These early events that are mediated by the innate immune system are critical for host survival. As a result of this process, pathogen-derived molecules can be presented at the cell surface (antigen presentation), allowing the induction of acquired immunity. Zymosan (<i>Saccharomyces cerevisiae</i>) is prepared from yeast cell wall and consists of protein-carbohydrate complexes. Zymosan is a commonly used pathogen in phagocytosis assays. Typically, engulfed Zymosan particles are manually counted (expressed as a phagocytosis index or engulfed particles per phagocyte). This manual counting method is quite cumbersome, time-consuming, and difficult when testing a large number of samples. CytoSelect™ 96-well Phagocytosis Assay (Zymosan) uses prelabeled Zymosan particles as a phagocytosis pathogen; however, it does not involve subjective manual counting of Zymosan particles inside cells. Instead external Zymosan particles are blocked before the colorimetric detection of engulfed particles (Figure 2). This format provides a quantitative, high-throughput method to accurately measure phagocytosis. The CytoSelect™ 96-well Phagocytosis Assay (Zymosan) provides a robust system for screening TLR ligands, phagocytosis activators or inhibitors. Each kit provides sufficient quantities to perform 96, 48, 24 tests in a 96, 48, 24-well plate, respectively.</p> |
| <b>Product Categories/Family for CytoSelect 96-well Phagocytosis Assay (Zymosan) assay kit</b>   | <p><a href="#">Cell Based Assays</a>; <a href="#">Phagocytosis Assays</a></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>References</b>                                                                                | <ol style="list-style-type: none"> <li>1. Sansonetti, P. (2001) Semin. Immunol. 13:381-390.</li> <li>2. Jutras I and Desjardins M. (2005) Annu Rev Cell Dev Biol. 21:511-27.</li> <li>3. Janeway, C. A., Jr., and Medzhitov R. (2002) Annu. Rev. Immunol. 20:197-216.</li> <li>4. Gordon, S. (2002) Cell. 111:927-930.</li> <li>1. Fiorcari, S. et al. (2015). Lenalidomide interferes with tumor-promoting properties of nurse-like cells in chronic lymphocytic leukemia. Haematologica. 100:253-262.</li> <li>2. Haselow, K. et al. (2013). Bile acids PKA-dependently induce a switch of the IL-10/IL-12 ratio and reduce proinflammatory capability of human macrophages. J. Leukoc. Biol. 94:1253-1264.</li> <li>3. Pierce, L.M. et al. (2012). Effect of heavy metal tungsten alloy particles on oxidative product formation and phagocytosis by lung macrophages. Am. J. Respir. Crit. Care Med. 185:A4666.</li> <li>4. Polancec, D.S. et al. (2012). Azithromycin drives in vitro GM-CSF/IL-4-induced differentiation of human blood monocytes toward dendritic-like cells with regulatory properties. J Leukoc Biol. 91:229-243.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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 Online datasheet: <https://stage.aaabiotech.com/assay-kits/cytoselect-96-well-phagocytosis-assay-zymosan/44546>