

Product Datasheet

Zymosan, TLR2 Ligand NBP2-26233

Unit Size: 200 mg

Store at -20C in powder form. Store at -80C once reconstituted.

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NBP2-26233

Zymosan, TLR2 Ligand

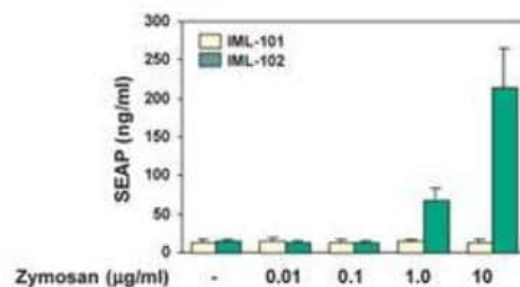
Product Information	
Unit Size	200 mg
Concentration	Please see the protocols for proper use of this product. If no protocol is available, contact technical services for assistance.
Storage	Store at -20C in powder form. Store at -80C once reconstituted.
Reconstitution Instructions	To prepare a 50mg/ml stock solution, mix 50mg Zymosan with 1ml ethanol in a sterile non-pyrogenic vial by vortexing. For further dilution, use sterilized endotoxin-free water or PBS. The stock solution is insoluble and remains opaque. Vortex before use.

Product Description	
Description	Zymosan is a yeast cell wall derivative that is composed of b-glucans, mannans, mannoproteins and chitin. Zymosan is a known activator of TLR2, of which inflammatory responses to this particle are synergistically generated by collaboration with Dectin-1 and result in NF-kB-induced inflammatory cytokine production and phagocytosis ¹ . Zymosan is also known to directly bind TLR2. Product Validation The data shows that Zymosan activated the TLR2 cells but not the control cells.
Species	Human
Reactivity Notes	Human reactivity reported in scientific literature (PMID: 25957979)

Product Application Details	
Applications	Functional, Functional (Inhibition), In vitro assay, In vivo assay, Ligand Activation
Recommended Dilutions	Functional, In vitro assay reported in scientific literature (PMID 27351455), In vivo assay reported in scientific literature (PMID 25846753), Ligand Activation reported in scientific literature (PMID 25957979), Functional (Inhibition) reported in scientific literature (PMID 25846753)
Application Notes	This product is useful for Activation of Toll-like Receptor 2 (TLR2). Stimulation of TLR2 has been reported with 1-10 ug/ml. Note: TLR2 activation at this range of concentrations of Zymosan has also been observed in our product validation tests, please see the image.

Images

Zymosan, TLR2 Ligand [NBP2-26233] - Ligand activity of Zymosan. The NF-kB/SEAPorter/HEK 293 and TLR2/NFkB/SEAPorter/ HEK 293 cell line cell lines were plated in a 96-well plate at 5×10^4 cells/well for 16 h. Cells were then stimulated with Zymosan for 24h. The cell culture supernatants were analyzed for SEAP activity using SEAPorter Assay Kit.



Publications

Kartikasari N, Yamada M, Watanabe J et al. Titania nanospikes activate macrophage phagocytosis by ligand-independent contact stimulation *Scientific reports* 2022-07-18 [PMID: 35851278]

Hikita, N;Cho, Y;Tachibana, D;Hamazaki, T;Koyama, M;Tokuhara, D; Cell surface antigens of neonatal monocytes are selectively impaired in basal expression, but hyperresponsive to lipopolysaccharide and zymosan *Journal of Reproductive Immunology* 2019-09-01 [PMID: 31606697] (Func, Human)

Yamaguchi M, Hirose Y, Takemura M, et al *Streptococcus pneumoniae* Evades Host Cell Phagocytosis and Limits Host Mortality Through Its Cell Wall Anchoring Protein PfbA. *Front Cell Infect Microbiol.* 2019-08-20 [PMID: 31482074] (Bacteria)

Details:

Mice were infected with *S. pneumoniae*.

Yanai S, Tokuhara D, Tachibana D et al. Diabetic pregnancy activates the innate immune response through TLR5 or TLR1/2 on neonatal monocyte *J. Reprod. Immunol.* 2016-06-22 [PMID: 27351455] (In vitro, Human)

Nohmi K, Tokuhara D, Tachibana D et al. Zymosan Induces Immune Responses Comparable with Those of Adults in Monocytes, Dendritic Cells, and Monocyte-Derived Dendritic Cells from Cord Blood. *J. Pediatr.* 2015-05-06 [PMID: 25957979] (LA, In vitro, Func, Human)

Details:

Zymosan, TLR2 ligand (Imgenex IMG-2212) was used for in-vitro stimulation experiments involving human heparinized cord or adult blood Monocytes, peripheral blood dendritic cells (DCs) and monocyte-derived DCs (MoDCs). Zymosan was employed at 1 ug/mL concentration on Monocytes as well as on MoDCs and at 0.5 ug/mL on DCs. See full text for experimental details and results.

Farnebo L, Shahangian A, Lee Y et al. Targeting Toll-like receptor 2 inhibits growth of head and neck squamous cell carcinoma *Oncotarget* 2015-04-02 [PMID: 25846753] (In-vivo, Func)





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