

PRODUCT INFORMATION



Zymosan A

Item No. 21175

CAS Registry No.: 58856-93-2

Supplied as: A powder

Storage: -20°C

Stability: ≥4 years

Special Conditions: Store in desiccating conditions

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Zymosan A is supplied as a powder. A stock solution may be made by dissolving the zymosan A in the solvent of choice, which should be purged with an inert gas. Zymosan A is soluble in organic solvents such as ethanol, DMSO, and chloroform. The solubility of zymosan A in ethanol and chloroform is approximately 0.1 mg/ml and approximately 0.2 mg/ml in DMSO.

Description

Zymosan A is a glucan derived from the cell wall of *S. cerevisiae* that activates toll-like receptor 2 (TLR2) and a C-type lectin, dectin-1, on macrophages, monocytes, and dendritic cells to induce inflammatory signaling.¹⁻⁴ It is commonly used to stimulate a sterile inflammatory response in mouse models of sepsis, shock, and peritonitis.^{5,6} In a mouse model of sepsis/shock, a lethal dose of zymosan A (500 mg/kg) in rats induced inflammation and shock leading to death.⁷ Zymosan A can also induce biosynthesis of eicosanoids.⁸

References

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3. Pillemer, L., Blum, L., Lepow, I.H., *et al.* The properdin system and immunity. III. The zymosan assay of properdin. *J. Exp. Med.* **103(1)**, 1-13 (1956).
4. Underhill, D.M., Ozinsky, A., Hajjar, A.M., *et al.* The toll-like receptor 2 is recruited to macrophage phagosomes and discriminates between pathogens. *Nature* **401(6755)**, 811-815 (1999).
5. Reynolds, F.D., Dauchy, R., Blask, D.E., *et al.* The pineal gland hormone melatonin improves survival in a rat model of sepsis/shock induced by zymosan A. *Surgery* **134(3)**, 474-479 (2003).
6. Rao, T.S., Currie, J.L., Shaffer, A.F., *et al.* *In vivo* characterization of zymosan-induced mouse peritoneal inflammation. *J. Pharmacol. Exp. Ther.* **269(3)**, 917-925 (1994).
7. Reynolds, F.D., Dauchy, R., Blask, D.E., *et al.* The pineal gland hormone melatonin improves survival in a rat model of sepsis/shock induced by zymosan A. *Surgery* **134(3)**, 474-479 (2003).
8. Humes, J.L., Sadowski, S., Galavague, M., *et al.* Evidence for two sources of arachidonic acid for oxidative metabolism by mouse peritoneal macrophages. *J. Biol. Chem.* **257(4)**, 1591-1594 (1982).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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