

***Mycobacterium leprae* Lipoarabinomannan (LAM)**

Catalog No. NR-19348

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Contributor:

BEI Resources or NIH – Leprosy Research Support Contract

Manufacturer:

Karen Dobos, Ph.D., Colorado State University, Fort Collins, Colorado, USA or NIH – Leprosy Research Support Contract

Product Description:

NR-19348 is a preparation of lipoarabinomannan (LAM) derived from the cell wall of *Mycobacterium leprae* (*M. leprae*) extracted from a pool of infected armadillo liver and spleen tissue.

Whole cell sonicate is suspended in a PBS buffer containing 4% Triton X-114 detergent and rocked at 4°C for 18 hours. The insoluble material is removed by centrifugation (27,000 × g). The Triton X-114 extract is collected and heated to 37°C, to allow biphasic partitioning, and centrifuged (27,000 × g). The detergent layer is collected and macromolecules, including LAM, are recovered by ethanol precipitation. The ethanol insoluble material is suspended in PBS and the proteins are digested and removed by dialysis. The crude carbohydrate mixture is fractionated by size-exclusion chromatography and the pure LAM pooled. Buffer contaminants are removed by extensive dialysis. The solution is sterile-filtered and lyophilized. Quality control testing includes SDS-PAGE, Western blotting, LAL assay, NMR, and neutral sugar GC analysis. Contaminating LPS is avoided as all buffers and water used are endotoxin free.

LAM possesses many biological activities including immunogenicity, induction of TNF and the release of other cytokines, and inhibition of antigen processing. The nonreducing termini of LAM from *M. leprae* are not capped with mannose, unlike that of *M. tuberculosis* H37Rv.

Material Provided:

Each vial contains approximately 100 µg of dried LAM pooled from up to three different strains of *M. leprae*. Please refer to the Certificate of Analysis for information regarding the specific strains used in the production of each lot.

Lyophilized products may aggregate as a loose powder near the lid. Please take precautionary measures (such as tapping the bottom of the tube on the lab bench) to reduce escape of the reagent when opening the vial to reconstitute contents.

Note: LAM can be reconstituted in water. A 100 mM to 500 mM aqueous buffered salt solution, such as phosphate buffered saline, may also be used.

Packaging/Storage:

NR-19348 was packaged aseptically in cryovials. The product should be stored at -80°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Mycobacterium leprae* Lipoarabinomannan (LAM), NR-19348.”

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

Disclaimers:

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