

# Mycobacterium tuberculosis, Strain H37Rv, 6-O-Methylglucose-Containing Lipopolysaccharides (mGLP)

## Catalog No. NR-59209

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**For research use only. Not for use in humans.**

## Contributor and Manufacturer:

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## Product Description:

NR-59209 is a preparation of 6-O-methylglucose-containing lipopolysaccharides (mGLP) extracted from the lipid fraction obtained from irradiated *Mycobacterium tuberculosis*, strain H37Rv. mGLP possesses biological activities associated with fatty acid metabolism and has been found to induce  $\gamma\delta_2$  T cells.<sup>1,2</sup> The culture was grown to late-log phase in glycerol-alanine-salts medium, washed with PBS, inactivated by gamma irradiation and dried. The cellular lipids were extracted with 10 mL of chloroform/methanol/water (10:10:3) per gram of cells overnight at room temperature and dried under nitrogen gas. The resulting pellet was resuspended in water and concentrated by 10 kDa ultrafiltration. The retentate was further concentrated using 3 kDa ultrafiltration and dried under nitrogen gas followed by purification on a C18 reverse phase Sep Pak filter using increasing amounts of methanol. The fractions were dried under nitrogen gas. mGLP resolves in 60% to 90% methanol fractions.

## Material Provided:

Each vial contains approximately 100  $\mu$ g of dried, purified mGLP from *Mycobacterium tuberculosis*, strain H37Rv.

**Note:** mGLP is soluble in most aqueous buffers. Avoid using solutions with a pH greater than 7.2 due to the likelihood of base hydrolysis in alkaline buffers. A small amount of DMSO may be used to encourage solubility, if necessary, prior to use in aqueous solutions.

## Packaging/Storage:

NR-59209 was packaged aseptically in glass vials. The product is provided frozen on dry ice and 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 tuberculosis*, Strain H37Rv, 6-O-Methylglucose-Containing Lipopolysaccharides (mGLP), NR-59209."

## 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 \(BMBL\)](#). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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## References:

- De, P., et al. "Structural Determinants in a Glucose-Containing Lipopolysaccharide from *Mycobacterium tuberculosis* Critical for Inducing a Subset of Protective T Cells." *J. Biol. Chem.* 293 (2018): 9706-9717. PubMed: 29716995.
- Xia, M., et al. "A Subset of Protective  $\gamma\delta_2$  T Cells Is Activated by Novel Mycobacterial Glycolipid Components." *Infect. Immun.* 84 (2016): 2449-2462. PubMed: 27297390.

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