

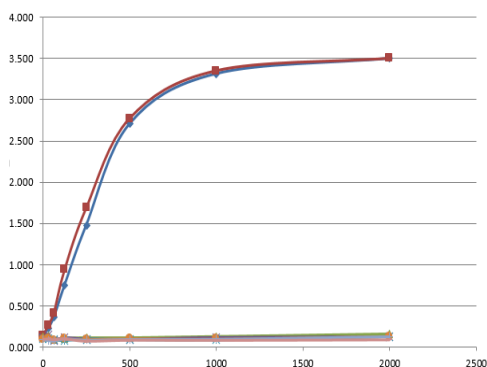
## CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

<b>Product name</b>	Lipoteichoic acid, clone 55		
<b>Catalog number</b>	HM5018		
<b>Lot number</b>	-	<b>Expiry date</b>	-
<b>Volume</b>	1 ml	<b>Amount</b>	100 µg
<b>Formulation</b>	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	<b>Concentration</b>	100 µg/ml
<b>Host Species</b>	Mouse IgG3	<b>Conjugate</b>	None
<b>Endotoxin</b>	N.A.	<b>Purification</b>	Protein A
<b>Storage</b>	4°C		

### Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #			4,9	10		2,3,8		5,6,7
Yes	•		•	•		•		•
No								
N.D.		•			•		•	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



IA: Immuno assay: determination of specificity of HM5018 by binding with LTA (coated on plate).

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- IA: For detection, 1.2 µg/ml antibody in PBS was added for 1 hr at 37 °C on LTA coated plates (Ref. 2,3,8).
- IF: 60' in PBS/0.02%BSA/0.02% saponin (ref 4)
- W: A reduced or native sample treatment and run on 15% SDS-Page. Blot was incubated o/n at 4°C with a 1/1000 dilution .The band size is ~17 kDa (Ref.6,7).
- Positive control: Culture medium of Gram-positive bacteria; Negative control: Culture medium of eukaryotic cells

### General Information

<b>Description</b>	The monoclonal antibody 55 recognizes lipoteichoic acid (LTA). LTA, a glycerol phosphate surface polymer, is a component of the envelope of Gram-positive bacteria. LTA is anchored via its glycolipids to the membrane and carries a polysaccharide chain extending into the peptidoglycan layer of the cell wall. LTA is released spontaneously into the culture medium during growth of gram-positive bacteria. LTA functions as an immune activator with characteristics very similar to lipopolysaccharide (LPS) from Gram-negative bacteria. LTA binds to CD14 and triggers activation predominantly via Toll-like receptor 2. Although LTA is internalized and traffics to the Golgi, the cellular activation in response to LTA occurs at the cell surface.
<b>Immunogen</b>	Microbial mixture of <i>Streptococcus sobrius</i> HG961, HG962, HG970, and HG977 (ref.1)
<b>Aliases</b>	LTA

## References

1. Hogg, S et al; Occurrence of lipoteichoic acid in oral streptococci. *Int. journal of systematic bacteriology* 1997, 47:62
2. Langevelde, P et al; Antibiotic-induced release of lipoteichoic acid and peptidoglycan from *Staphylococcus aureus*: Quantitative measurements and biological reactivities. *Antimicrob Agents Chemother* 1998, 42: 3073
3. Langevelde, P et al; Antibiotic-induced cell wall fragments of *Staphylococcus aureus* increase endothelial chemokine secretion and adhesiveness for granulocytes. *Antimicrob Agents Chemother* 1999, 43: 2984
4. Triantafilou, M et al; Lipoteichoic acid and toll-like receptor 2 internalization and targeting to the golgi are lipid raft-dependent. *J Biol Chem* 2004, 279: 40882
5. Henneke, P et al; Role of lipoteichoic acid in the phagocyte response to group B *Streptococcus*. *J Immunol* 2005, 174: 6449
6. Grundling, A et al. Synthesis of glycerol phosphate lipoteichoic acid in *Staphylococcus aureus*. *PNAS* 2007, 104:8478
7. Jimenez-Dalmaroni, M et al. Soluble CD36 ectodomain binds negatively charged diacylglycerol ligands and acts as a co-receptor for TLR2. *Plos One* 2009, 4:7411
8. Yajima, A et al. Contribution of phosphoglucosamine mutase to the resistance of *Streptococcus gordonii* DL1 to polymorphonuclear leukocyte killing. *FEMS Microbiol lett* 2009, 297: 196
9. Hashimoto, Y et al. Identification of LTA as a ligand for draper in the phagocytosis of *Staphylococcus aureus* by *Drosophila* hemocytes. *J Immunol* 2009, 183:7451
10. Hirose, Y et al. Lipoteichoic acids on *Lactobacillus plantarum* cell surfaces correlate with induction of interleukin-12p40 production. *Microbiol immunol* 2010, 54:143
11. Wormann, M.E. et al. Enzymatic activities and functional interdependencies of *Bacillus subtilis* lipoteichoic acid synthesis enzymes. *Molecular Microbiology* 2011, 79: 566
12. Palomino, M.M. et al Osmotic stress adaptation in *Lactobacillus casei* BL23 leads to structural changes in the cell wall polymer lipoteichoic acid. *Microbiology* 2013, 159:2416
13. Tadmor, K et al. *Listeria Monocytogenes* MDR transporters are involved in LTA synthesis and triggering innate immunity during infection. *Frontiers in cellular and infection microbiology* 2014, 4:16

**Storage&stability** Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.

**Precautions** For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC  
Robbert Zwinkels

Date  
16/03/2018

Do you have any questions or comments regarding this product? Please contact us via [support@hycultbiotech.com](mailto:support@hycultbiotech.com).