Anti-Lipid A [S1-15] Bulk Size Ab03158-3.3-BT

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

Isotype and Format: Mouse IgG2b, Fc Silent™, Kappa
Clone Number: S1-15
Alternative Name(s) of Target: lipA
UniProt Accession Number of Target Protein:
Published Application(s): crystallization, EIA, PIH, ELISA
Published Species Reactivity: Gram-negative bacteria
Immunogen: The original antibody was generated by immunizing BALB/c mice with lipA.
Specificity: The antibody recognizes the carbohydrate backbone of lipid A. The antibody binds to the 4'-monophosphoryl GlcN disaccharide. The antibody does not cross react with lipopolysaccharides (LPS). The antibody cross reacts with ssDNA. Lipid A is the lipid component of LPS contained in gram-negative bacteria. Lipid A is the endotoxic principle of LPS.
Application Notes: In passive immunohemolysis, the antibody reacted with bisphosphoryl compounds as well as with the 4'-monophosphoryl partial structures (Kuhn et al., 1992; PMID 1375194). The specificity of the antibody was determined by ELISA analysis. The crystal structures of the Fab fragment in complex with lipid A carbohydrate backbone and in the unliganded form were determined by X-ray diffraction, showing the binding mechanism of the antibody is a lock and key type. Further, the structure of the Fab fragment in complex with single-stranded DNA fragment 5(dT) oligonucleotide was determined. The antibody bound two separate oligonucleotides by their terminal 5- and 3-phosphate groups (Haji-Ghassemi et al., 2015; PMID: 26085093). Solid-phase enzyme immunoassay shown the antibody binds better to the glycoconjugate at low antigen concentrations and better to the lipid A when high concentrations of antigen were used (Brade et al., 1993). The antibody was tested against the synthetic lipid A precursor Ia and compound B1047, a precursor Ia, by enzyme immunoassay. The antibody bound to precursor Ia, but not to compound B 1047 or Escherichia coli Re LPS (Brade et al., 1997; PMID: 9284181).
Antibody First Published in: Kuhn et al. Characterization of the epitope specificity of murine monoclonal antibodies directed against lipid A. Infect Immun. 1992 Jun;60(6):2201-10. PMID:1375194
Note on publication: The paper describes the generation and characterization of the antibody.

Product Form

Size:

1 mg Purified antibody in bulk size.
Purification: Protein A affinity purified
Supplied In: PBS only.
Storage Recommendation: Store at 4ºC for up to 3 months. Note, this antibody is provided without added preservatives, it is therefore recommed this antibody be handled under sterile conditions. For longer storage, aliquot and store at -20ºC.
Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.