Datasheet for ABIN455722

Lipoteichoic Acid ELISA Kit

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Overview

Quantity:	96 tests
Target:	Lipoteichoic Acid (LTA)
Reactivity:	Various Species
Method Type:	Competition ELISA
Detection Range:	0.312-20 ng/mL
Minimum Detection Limit:	0.312 ng/mL
Application:	ELISA

Product Details

Purpose:	This immunoassay kit allows for the in vitro quantitative determination of lipoteichoic acids, LTA concentrations in cell culture supernates, serum, plasma and other biological fluids.
Sample Type:	Cell Culture Supernatant, Plasma, Serum
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	This assay recognizes recombinant and natural LTA.
Cross-Reactivity (Details):	No significant cross-reactivity or interference was observed.
Sensitivity:	< 0.078 ng/mL The sensitivity of this assay, or Lower Limit of Detection (LLD) was defined as the lowest detectable concentration that could be differentiated from zero.
Characteristics:	Lipoteichoic acid,LTAD,LTA

Product Details

Components:	Reagent (Quantity): Assay plate (1×20ml), Standard (2), Sample Diluent (1×20ml), Assay Diluent A (1×10ml), Assay Diluent B (1×10ml), Detection Reagent A (1×120 µl), Detection Reagent B (1×120 µl), Wash Buffer(25 x concentrate) (1×30ml), Substrate (1×10ml), Stop Solution (1×10ml), Plate sealer for 96 wells (5), Instruction (1)
Material not included:	Luminometer. Pipettes and pipette tips. EP tube Deionized or distilled water.

Target Details

Target:	Lipoteichoic Acid (LTA)
Alternative Name:	Lipoteichoic Acid (LTA Products)
Target Type:	Chemical
Background:	Lipoteichoic acids (LTA), a glycerol phosphate surface polymer, are components of the cell membrane cell walls of virtually all Gram-positive bacteria, and they can also be secreted into the surrounding milieu. Their structures vary among different species, but in general, they can be described as macro amphiphiles consisting of a hydrophilic backbone of approximately 30 repeating units of polyglycerol phosphate (PGP) substituted to various degrees by alanine and glycosidic substitutions and covalently linked by an ester bond to glycolipid. LTAs have been shown to bind to many types of animal cells, and in most cases, this binding is lipid- and not PGP-dependent. LTA exhibits structural and functional similarity to Gram-negative LPS. Some of these functional similarities are thought to be relevant to the remarkable similarities that can be found in the pathophysiology of shock caused by Gram-negative and Gram-positive bacteria, both of which are probably mediated in large part by TNF- and IL-1. Because the role of LPS in triggering the release of these cytokines and other inflammatory mediators is well-established, it has been suggested that LTA may play a similar role.

Application Details

Sample Volume:	100 µL
Plate:	Pre-coated
Protocol:	The microtiter plate provided in this kit has been pre-coated with an antibody specific to LTA. Standards or samples are then added to the appropriate microtiter plate wells with a biotin-conjugated polyclonal antibody preparation specific for LTA and Avidin conjugated to Horseradish Peroxidase (HRP) is added to each microplate well and incubated. Then a TMB substrate solution is added to each well. Only those wells that contain LTA, biotin-conjugated antibody and enzyme-conjugated Avidin will exhibit a change in color. The enzyme-substrate

Application Details

	reaction is terminated by the addition of a sulphuric acid solution and the color change is measured spectrophotometrically at a wavelength of 450 nm ± 2 nm. The concentration of LTA in the samples is then determined by comparing the O.D. of the samples to the standard curve.
Reagent Preparation:	Bring all reagents to room temperature before use. Wash Buffer - If crystals have formed in the concentrate, warm to room temperature and mix gently until the crystals have completely dissolved. Dilute 30 mL of Wash Buffer Concentrate into deionized or distilled water to prepare 750 mL of Wash Buffer. Standard - Reconstitute the Standard with 1.0 mL of Sample Diluent. This reconstitution produces a stock solution of 20 ng/ml. Allow the standard to sit for a minimum of 15 minutes with gentle agitation prior to making serial dilutions (Making serial dilution in the wells directly is not permitted). The undiluted standard serves as the high standard (20 ng/ml). The Sample Diluent serves as the zero standard (0 ng/ml). ng/mL 20 10 5 2.5 1.25 0.625 0.312 0 Detection Reagent A and B - Dilute to the working concentration using Assay Diluent A and B (1:100), respectively.
Sample Collection:	Serum - Use a serum separator tube (SST) and allow samples to clot for 30 minutes before centrifugation for 15 minutes at approximately 1000 × g. Remove serum and assay immediately or aliquot and store samples at -20 C or -80 C . Plasma - Collect plasma using EDTA or heparin as an anticoagulant. Centrifuge samples for 15 minutes at 1000 × g at 2 - 8 C within 30 minutes of collection. Store samples at -20 C or -80 C . Avoid repeated freeze-thaw cycles. Cell culture supernates and other biological fluids - Remove particulates by centrifugation and assay immediately or aliquot and store samples at -20 C or -80 C . Avoid repeated freeze-thaw cycles. Note: Serum, plasma, and cell culture supernatant samples to be used within 7 days may be stored at 2-8 C , otherwise samples must stored at -20 C (≤ 1 months) or -80 C (≤ 2 months) to avoid loss of bioactivity and contamination. Avoid freeze-thaw cycles. When performing the assay slowly bring samples to room temperature.
Restrictions:	For Research Use only

Handling

Handling Advice:	1. The kit should not be used beyond the expiration date on the kit label. 2. Do not mix or substitute reagents with those from other lots or sources. 3. If samples generate values higher than the highest standard, further dilute the samples with the Assay Diluent and repeat the assay. Any variation in standard diluent, operator, pipetting technique, washing technique,incubation time or temperature, and kit age can cause variation in binding. 3 4. This assay is designed to eliminate interference by soluble receptors, ligands, binding

Handling

	proteins, and other factors present in biological samples. Until all factors have been tested in the Immunoassay, the possibility of interference cannot be excluded.
Storage:	4 °C/-20 °C
Storage Comment:	The Standard, Detection Reagent A, Detection Reagent B and the 96-well strip plate should be stored at -20 °C upon being received. The other reagents can be stored at 4 °C.

Publications

Product cited in:	Yang, Li, Ge, Mi, Wang, Sun: "Protective effects of naloxone in two-hit seizure model." in: **Epilepsia**, Vol. 51, Issue 3, pp. 344-53, (2010) (PubMed).