CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	LPS B.quintana		
Catalog number	HC4084-02		
Lot number	-	**Expiry date**	-
Volume	0.5 ml	**Activity**	N.A.
Formulation	PBS	**Amount**	50 µg
Host species	*B. quintana*	**Concentration**	100 µg/ml
Endotoxin level	N.A.	**Purification**	N.A.
Storage	-80°C	**Purity**	> 95%

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #								
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

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions.

- FS: HC4084 is a potent TLR4 antagonist.

General Information

Description

Humans as well as other vertebrates are often exposed to lipopolysaccharide (LPS), for instance via enterobacteria. LPS responses are mediated via Toll-like receptor 4 (TLR4), a member of the TLR protein family that play a fundamental role in pathogen recognition and activation of the innate immune system. TLR4 signaling activates various transcription factors like nuclear factor kappa-light-chain-enhancer (NF-κB), activator protein 1 (AP1), signal transducers and activators of transcription family of transcription factors (STAT1) and interferon regulatory factors (IRF's). This leads to the induction of several inflammatory pathways thereby promoting inflammation. Given the key role of the TLR4 signaling pathway in the induction of inflammation, it has been proposed that inhibition of this pathway has potential as a treatment for inflammatory disorders. This LPS molecule is derived from the cell membrane of the gram-negative bacterium *Bartonella quintana*. In contrast to LPS derived from Escherichia coli, *B. quintana* LPS is a potent antagonist of TLR4, as it inhibited both mRNA transcription and the release of tumor necrosis factor alpha, interleukin 1 (IL1), and IL-6. Because TLR4 proinflammatory signals are involved in a variety of pathological inflammatory reactions, the use of the TLR4 antagonistic properties of *B. quintana* LPS may be of potential therapeutic value.

Species

Bartonella quintana CIP 103739 Oklahoma strain

References

1. Popa, C et al; Bartonella quintana Lipopolysaccharide Is a Natural Antagonist of Toll-Like Receptor 4. Infec and Immun 2007, 4831
2. Malgorzata-Miller, G et al; *Bartonella quintana* lipopolysaccharide (LPS): structure and characteristics of a potent TLR4 antagonist for in-vitro and in-vivo applications. Nature Scientific reports 2016, *6*:34221

Storage&stability

Product should be stored at -80°C. Store stock solution in aliquots at –80°C. Repeated freeze and thaw cycles will cause loss of activity. 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.

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	Date
Robbert Zwinkels	29/06/2018

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.