HKST

Heat Killed *Salmonella typhimurium*; TLR2 and TLR4 agonist

Catalog # tlrl-hkst2

http://www.invivogen.com/hkst

For research use only

Version # 17C15-MM

PRODUCT INFORMATION

Content:

- 10^{10} freeze-dried cells of Heat Killed *Salmonella typhimurium* strain CDC 6516-60 (HKST)
- 1.5 ml endotoxin-free water

Storage:

- HKST is provided lyophilized and shipped at room temperature. Store at 4 °C.
- Upon resuspension, prepare aliquots of HKST and store at -20 °C.
- Resuspended product is stable for 1 year at -20 °C when properly stored.

DESCRIPTION

HKST is a heat killed preparation of the Gram negative bacterium, *Salmonella typhimurium*. Recognition of HKST is mediated by TLR2 and TLR4[1-2]. TLR2 and TLR4 recognize cell wall components from HKST, such as peptidoglycan (PGN) and lipopolysaccharide (LPS) resulting in the production of pro-inflammatory cytokines, such as IL-6 and TNF-α[1]. InvivoGen's HKST is a potent agonist of TLR2 and TLR4.

1. Lembo A. *et al*., 2003. Differential Contribution of Toll-Like Receptors 4 and 2 to the Cytokine Response to Salmonella enterica Serovar Typhimurium and Staphylococcus aureus in Mice. Infect Immun. 71(10):6058-62. **2. Arpaia N. *et al*., 2011.** TLR signaling is required for virulence of an intracellular pathogen Cell, 144(5):675-688.

METHODS

Preparation of stock suspension

To prepare a stock suspension at 10^{10} cells/ml:

- Add 1 ml endotoxin-free water (provided) to rehydrate the pellet.
- Vortex for 10 seconds or until homogenized.

Note: Rehydrated HKST results in a cloudy suspension.

TLR2 and TLR4 activation using HKST

Activation of TLR2 and TLR4 by HKST can be determined using HEK-Blue™ TLR2 and HEK-Blue™ TLR4, respectively. HEK-Blue™ TLR cells stably express an NF-κB-inducible secreted embryonic alkaline phosphatase (SEAP) and overexpress a TLR gene.

For more information visit: www.invivogen.com/hek-blue-tlr-cells

In the HEK-Blue™-TLR cells, the optimal concentration of HKST is 10^4 cells/ml to activate TLR2 and 10^6 cells/ml to activate TLR4.

- Add 10^4-10^6 HKST cells/ml to HEK-Blue™ TLR cells (prepare cell suspension according to data sheet).
- Incubate cells and HKST for 6-24 h at 37 °C, 5% CO_2.
- Determine TLR2 or TLR4 stimulation with HKST by assessing cytokine expression using an ELISA, or SEAP expression using a SEAP detection medium, such as HEK-Blue™ Detection.

RELATED PRODUCTS

Product	Catalog Code
HEK-Blue™ hTLR2 cells	hkb-htlr2
HEK-Blue™ hTLR4 cells	hkb-htlr4
HEK-Blue™ Detection	hb-det2
Other TLR2 ligands:	
HKLM (heat killed *L. monocytogenes*)	tlrl-hklm
LM-MS (lipomannan from *M. smegmatis*)	tlrl-lmm2
Pam3CSK4 (synthetic triacylated lipoprotein)	tlrl-pms
Other TLR4 ligands:	
LPS-EB Ultrapure (LPS from *E.coli* O111:B4)	tlrl-3pelps
LPS-EK Ultrapure (LPS from *E. coli* K12)	tlrl-peklps
MPLA (monophosphoryl lipid A from *S. minnesota*)	tlrl-mpla

TECHNICAL SUPPORT
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