HKPA

Heat Killed *Pseudomonas aeruginosa*; TLR2 ligand

Catalog code: tlrl-hkpa

https://www.invivogen.com/hkpa

For research use only

Version 21G13-MM

PRODUCT INFORMATION

Contents

- 10^{10} freeze-dried cells of Heat Killed *Pseudomonas aeruginosa* (HKPA)
- 1.5 ml of sterile endotoxin-free water

Storage and stability

- HKPA is shipped at room temperature. Upon receipt, store at 4°C.
- Upon resuspension, prepare aliquots of HKPA and store at 4°C or at -20°C. Resuspended product is stable for 1 month at 4°C and for 6 months at -20°C when properly stored. Avoid repeated freeze-thaw cycles.

Quality Control:

- TLR2 activity has been validated using HEK-Blue™ TLR2 cells.
- The presence of other bacterial components (e.g. lipopolysaccharide) has been assessed using HEK-Blue™ TLR4 cells.
- Lack of viability has been confirmed by microbiological testing.

DESCRIPTION

HKPA is a lyophilized heat-killed preparation of *Pseudomonas aeruginosa* (*P. aeruginosa*). This virulent gram-negative pathogen that infects patients through the respiratory tract, in particular patients with cystic fibrosis. HKPA initiates host inflammatory responses through TLR2 and TLR5 but not TLR4[1, 2]. The TLR5-mediated response was shown to be induced by flagellin while lipopolysaccharide (LPS) appears to play an important role in the TLR2-mediated response[1,2]. HKPA contains other bacterial components, such as LPS, and therefore stimulates both TLR2 and TLR4.

1 Khan A.Q. *et al.*, 2005. Both Innate Immunity and Type 1 Humoral Immunity to Streptococcus pneumoniae Are Mediated by MyD88 but Differ in Their Relative Levels of Dependence on Toll-Like Receptor 2. Infect. Immun. 73:298-307. **2. Yoshimura A. *et al.*, 1999.** Cutting Edge: Recognition of Gram-Positive Bacterial Cell Wall Components by the Innate Immune System Occurs Via Toll-Like Receptor 2. J. Immunol. 163:1-5.

METHODS

Preparation of stock solution (10^{10} HKPA/ml)

Stimulation of TLR2 can be achieved with 10^5-10^7 HKPA/ml.

1. Add 1 ml of sterile endotoxin-free water (provided) to rehydrate the pellet.
2. Vortex for 10 seconds to homogenize.

Note: Resuspended HKPA results in a cloudy suspension.

HKPA-induced TLR2 activation

HKPA can be used to stimulate TLR2 in HEK-Blue™ TLR2 cells. These cells stably express the TLR2 gene and an NF-κB-inducible secreted embryonic alkaline phosphatase (SEAP). For more information visit: https://www.invivogen.com/hek-blue-tlr2.

1. Add 20 µl of HKPA at 10^5-10^7 cells/ml (final concentration) in a well of a 96-well plate.
2. Add 180 µl of cell suspension (prepare cell suspension according to data sheet) per well.
3. Incubate the plate for 6-24 h at 37 °C, 5% CO_2.
4. Determine TLR2 stimulation with HKPA by assessing SEAP expression using a SEAP detection medium, such as HEK-Blue™ Detection.

RELATED PRODUCTS

Product	Description	Cat.Code
HEK-Blue™ hTLR2 cells	Human TLR2 reporter cells	hkb-htlr2
HEK-Blue™ mTLR2 cells	Murine TLR2 reporter cells	hkb-mtlr2
HEK-Blue™ Detection	SEAP detection reagent	hb-det2
Other TLR2 ligands:		
HKEB	Heat-killed *E. coli* 0111:B4	tlrl-hkeb2
HKLM	Heat-killed *L. monocytogenes*	tlrl-hklm
HKSA	Heat-killed *S. aureus*	tlrl-hksa

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