

# HKSP

## Heat Killed *Streptococcus pneumoniae*; TLR2 ligand

Catalog code: tlr1-hksp

<https://www.invivogen.com/hksp>

**For research use only**

Version 19A04MM

### PRODUCT INFORMATION

#### Contents

- 10<sup>10</sup> freeze-dried cells of Heat Killed *Streptococcus pneumoniae* (HKSP)
- 1.5 ml sterile endotoxin-free water

#### Storage and stability

- HKSP is provided lyophilized and shipped at room temperature. Store at 4°C.
- Upon resuspension, prepare aliquots of HKSP and store at 4°C for short term storage or -20°C for long storage.
- Product is stable 1 month at 4°C and 6 months at -20°C when properly stored.

#### Quality Control

- TLR2 activity has been validated using HEK-Blue™ TLR2 cells.
- The absence of TLR4 activity has been confirmed using HEK-Blue™ TLR4 cells.
- Lack of viability has been confirmed by microbiological testing.

### DESCRIPTION

*Streptococcus pneumoniae*, a Gram-positive bacterium, is the principal etiologic agent of bacterial meningitis in adults. Heat-killed *Streptococcus pneumoniae* (HKSP) induce activation of NF-κB in a TLR2- and CD14-dependent manner<sup>1</sup>. TLR2 has been shown to play an important role in the protein- and polysaccharide-specific type 1 IgG isotype response following immunization with HKSP<sup>2</sup>.

1. **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. 2. **Khan AQ. 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.

### METHODS

Preparation of stock suspension (10<sup>10</sup> cells/ml)

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

Note: Resuspended HKSP results in a cloudy suspension.

**Working concentration:** 10<sup>6</sup>-10<sup>8</sup> cells/ml

#### HKSP-induced TLR2 activation

HKSP can be used to stimulate TLR2 in HEK-Blue™ TLR2 cells. HEK-Blue™ TLR2 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>.

- Add 20 µl of HKSP at 10<sup>6</sup>-10<sup>8</sup> cells/ml (final concentration) in a well of a 96-well plate.
- Add 180 µl of cell suspension (prepare cell suspension according to data sheet) per well.
- Incubate the plate for 6-24 h at 37°C, 5% CO<sub>2</sub>.
- Determine TLR2 stimulation with HKSP 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 (human TLR2)	hkb-htlr2
HEK-Blue™ mTLR2 Cells (mouse TLR2)	hkb-mtlr2
HEK-Blue™ Detection	hb-det2
<b>Other TLR2 ligands:</b>	
HKEB (heat-killed <i>E. coli</i> 0111:B4)	tlr1-hkeb2
HKLM (heat-killed <i>L. monocytogenes</i> )	tlr1-hklm
HKPG (heat-killed <i>P. gingivalis</i> )	tlr1-hkpg

#### TECHNICAL SUPPORT

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