Product Datasheet

Pam3CSK4, TLR1 and TLR2 Ligand
NBP2-25297-0.025mg

Unit Size: 0.025 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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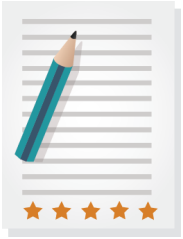


NBP2-25297-0.025mg

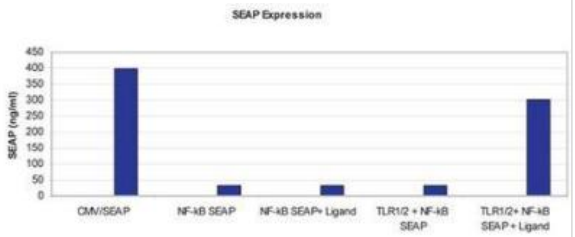
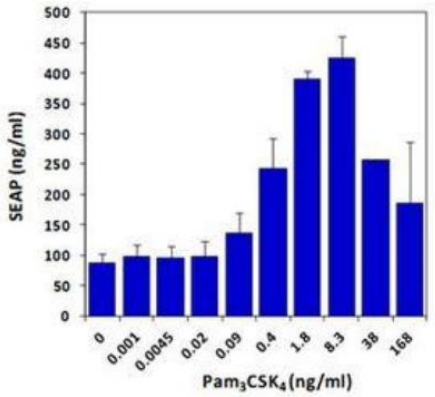
Pam3CSK4, TLR1 and TLR2 Ligand

Product Information	
Unit Size	0.025 mg
Concentration	Please see the protocols for proper use of this product. If no protocol is available, contact technical services for assistance.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Buffer	Sterile Water

Product Description	
Species	Human, Mouse
Reactivity Notes	Human reactivity reported in scientific literature (PMID: 24105263). Mouse reactivity reported in scientific literature (PMID: 25511699)
Specificity/Sensitivity	Pam3CSK4, TLR1 and TLR2 Ligand
Immunogen	Pam3CSK4, TLR1 and TLR2 Ligand is a synthetic tripalmitoylated lipohexapeptide analog of the immunologically active N-terminal portion of bacterial lipoprotein. It activates monocytes and macrophages and is also a potent activator of proinflammatory transcription factor NF-kB. Pam3CSK4, TLR1 and TLR2 Ligand is recognized by a heterodimer formed between TLR1 and TLR2.Pam3CSK4, TLR1 and TLR2 Ligand stimulation: If your cell line does not naturally express TLR1+ TLR2, co-transfect with plasmids pCMV/TLR1and pCMV/TLR2. Forty-eight hrs after transfection, stimulate cells with 10 to 100 ng/ml of Pam3CSK4 for 6-24 hrs. Determine Pam3CSK4 stimulation using appropriate detection assays.

Product Application Details	
Applications	Functional, In vitro assay, In vivo assay, Ligand Activation
Recommended Dilutions	Functional, In vitro assay, In vivo assay, Ligand Activation
Application Notes	Activation of TLR1 and TLR2 heterodimer Stimulation of TLR1 and TLR2 has been reported with 10-100 ng/ml. Use in vitro assay reported in scientific literature (PMID: 24105263) Use in functional reported in scientific literature (PMID 25511699) Use in In-vivo reported in scientific literature (PMID 25466255). Use in Ligand activation reported in multiple pieces scientific literature.

Images

Pam3CSK4, TLR1 and TLR2 Ligand [NBP2-25297] - 293 cells were transfected with pCMV/TLR1-2 plasmid and pNF-kB/SEAP plasmid using Lipofectamin 2000. After 48 hrs of transfection, 50 ng/ml of Pam3CSK4 was added. Cells were incubated at 37C for 24 hrs. Transfected cell supernatant was collected and analyzed using the NF-kB SEAPorter Assay kit. pCMV/SEAP plasmid was used to check transfection efficiency.	
Pam3CSK4, TLR1 and TLR2 Ligand [NBP2-25297] - Evaluation of the ligand activity on TLR2/NF-kB SEAPorter HEK 293 cell line. IML-102 cell line is a stably co-transfected cell line that expresses full-length human Toll-like receptor 2 (TLR2) and the secreted alkaline phosphatase reporter gene under the transcriptional control of an NF-KB response element. IML-102 cells were plated in 96-well plates at 5 x 10^4 cells/well. After 16 h, cells were stimulated with various amounts of for 24 h. SEAP was analyzed using the SEAPorter Assay Kit . Data Summary: specifically activated the TLR2/1-depedent NF-KB/SEAP reporter cells in a dose dependent manner (Note: HEK 293 cells endogenously express TLR1).	

Publications

Yanai S, Tokuhara D, Tachibana D et al. Diabetic pregnancy activates the innate immune response through TLR5 or TLR1/2 on neonatal monocyte J. Reprod. Immunol. 2016 Jun 22 [PMID: 27351455] (In vitro, Human)

Wang P, Zeng F, He L et al. Alteration of the immune status of umbilical cord mesenchymal stem cells stimulated by TLR1/2 agonist, Pam3Csk Mol Med Rep 2016 Jul 13 [PMID: 27431529]

Croasdell A, Sime PJ, Phipps RP. Resolvin D2 decreases TLR4 expression to mediate resolution in human monocytes. FASEB J. Jun 2 2016 12:00AM [PMID: 27256622]

Mastorci K, Muraro E, Pasini E et al. Toll-Like Receptor 1/2 and 5 Ligands Enhance the Expression of Cyclin D1 and D3 and Induce Proliferation in Mantle Cell Lymphoma. PLoS ONE. Apr 29 2016 12:00AM [PMID: 27123851] (Func, Human)

Sigola LB, Fuentes AL, Millis LM et al. Effects of toll-Like receptor ligands on RAW 264.7 macrophage morphology and zymosan phagocytosis. Tissue and Cell. 2016 Apr 22 [PMID: 27157550] (Func, Mouse)

Phongsisay V, Iizasa E, Hara H, Yoshida H. Evidence for TLR4 and FcRgamma-CARD9 activation by cholera toxin B subunit and its direct bindings to TREM2 and LMIR5 receptors. Mol. Immunol. 2015 May 25 [PMID: 26021803] (LA, Func, In vitro, Human, Mouse)

Details:
Pam3CSK4, TLR1 and TLR2 Ligand was used at 50-100 ng/ml concentration for the stimulation/ligand activation application in experiments involving TLR4 reporter cell, W / MyD88?/? mouse bone marrow-derived macrophages /BMDMs and NF-?B reporter cells /T?BRed cells (reporter cells express a fluorescent marker DsRed under the control of NF-?B in human monocytes THP1). See full text for detailed protocols and results.

Nohmi K, Tokuhara D, Tachibana D et al. Zymosan Induces Immune Responses Comparable with Those of Adults in Monocytes, Dendritic Cells, and Monocyte-Derived Dendritic Cells from Cord Blood. J. Pediatr. 2015 May 06 [PMID: 25957979] (LA, Func, In vitro, Human)

Details:
Pam3CSK4, TLR1 and TLR2 heterodimer ligand (Imgenex IMG-2201) was used for in-vitro stimulation experiments involving human heparinized cord or adult blood Monocytes, peripheral blood dendritic cells (DCs) and monocyte-derived DCs (MoDCs). Pam3CSK4 was employed at 100 ng/mL concentration on Monocytes as well as on MoDCs and at 50 ng/mL on DCs. See full text for experimental details and results.

Kropp KA, Hsieh WY, Isern E et al. A Temporal Gate for Viral Enhancers to Co-opt Toll-Like-Receptor Transcriptional Activation Pathways upon Acute Infection PLoS Pathog. 2015 Apr 01 [PMID: 25856589] (Func)

Godefroy E, Gallois A, Idoyaga J et al. Activation of Toll-like Receptor-2 by Endogenous Matrix Metalloproteinase-2 Modulates Dendritic-Cell-Mediated Inflammatory Responses. Cell Rep. 2014 Dec 11 (In-vitro, Func, In vivo, Mouse)

Phongsisay V, Hara H, Fujimoto S. Toll-like receptors recognize distinct proteinase-resistant glycoconjugates in Campylobacter jejuni and Escherichia coli. Mol. Immunol. 2015 Mar 01 [PMID: 25511699] (In-vitro, Func, Mouse)

Phongsisay V, Iizasa E, Hara H, Yamasaki S. LMIR5 extracellular domain activates myeloid cells through Toll-like receptor 4 Mol. Immunol. 2014 Jul 05 [PMID: 25004110] (In vitro)

Details:
Pam3CSK4, TLR1 and TLR2 Ligand/Pam3 used at 100 ng/ml concentration on bone marrow-derived macrophage/BMDMs wild type (WT) and gene-deficient mice (-/-) in experiments involving stimulation of cells with 1.2 g/ml fusion protein, 50 g/ml zymosan, or 10 ng/ml LPS for 24 h followed by detection of cytokines production with ELISA (Fig. 3)

Matsui T, Kida H, Iha T et al. Effects of hypothermia on ex vivo microglial production of pro-and anti-inflammatory cytokines and nitric oxide in hypoxic-ischemic brain-injured mice. Folia Neuropathologica. (LA, Mouse)

Details:
Figs 2,3: Primary brain microglia cultures. The effects of Pam3CSK4 (10 ng/ml) stimulation were measured by TNF-alpha (Fig 2) or IL-10 (Fig 3) ELISAs.

More publications at http://www.novusbio.com/NBP2-25297

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