

Product Datasheet

Flagellin, TLR5 Ligand NBP2-25289

Unit Size: 0.01 mg

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

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NBP2-25289

Flagellin, TLR5 Ligand

Product Information	
Unit Size	0.01 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	Prepare dilutions by adding the appropriate amount of PBS or tissue culture media. Contents: 10 ug in 100 ul of PBS with 10% glycerol
Product Description	
Species	Human, Mouse
Reactivity Notes	Human reactivity reported in scientific literature (PMID: 24154872). Mouse reactivity reported in scientific literature (PMID: 25466255)
Immunogen	Flagellin FliC from Salmonella Tyhimurium (494 amino acid protein) is a highly conserved molecule among both gram-negative and gram-positive bacteria.
Product Application Details	
Applications	Functional, In vitro assay, Ligand Activation
Recommended Dilutions	Functional, In vitro assay, Ligand Activation
Application Notes	Activation of TLR5. Flagellin is a potent stimulator of innate immune responses in a number of eukaryotic cells and organisms, including both mammals and plants. In mammals, flagellin is recognized by TLR5 and triggers defense responses both systemically and at epithelial surfaces. Flagellin induces the activation of NF-KB and the production of cytokines and nitricoxide depending on the nature of the TLR5 signaling complex. Stimulation of TLR5 has been reported with 10-100 ng/ml. Use in functional reported in scientific literature (PMID: 24154872) Use in In vitro assay reported in scientific literature (PMID 25466255). Use in Ligand activation reported in scientific literature (PMID 25957979)



Publications

Sun L, Hult EM, Cornell TT et al. Loss of myeloid-specific protein phosphatase 2A enhances lung injury and fibrosis and results in IL-10 dependent sensitization of epithelial cell apoptosis Am. J. Physiol. Lung Cell Mol. Physiol. 2019-03-06 [PMID: 30838865] (Func, Mouse)

Ma Y, Zhang L, Li Q Expression levels of cytokines and chemokines increase in human peripheral blood mononuclear cells stimulated by activation of the Toll-like receptor 5 pathway. Exp Ther Med 2015-12-04 [PMID: 26893651] (Human)

Nyúl-Toth a, Kozma M, Nagyoszi P et al. Expression of pattern recognition receptors and activation of the non-canonical inflammasome pathway in brain pericytes. Brain Behav. Immun. 2017-04-18 [PMID: 28432035]

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. 2016-06-22 [PMID: 27351455] (In vitro, Human)

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. 2016-04-29 [PMID: 27123851] (Func, Human)

Details:

This citation used the FITC version of this antibody.

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. 2015-05-06 [PMID: 25957979] (LA, In vitro, Func, Human)

Details:

Zymosan, TLR2 ligand (Imgenex IMG-2212) 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). Zymosan was employed at 1 ug/mL concentration on Monocytes as well as on MoDCs and at 0.5 ug/mL on DCs. See full text for experimental details and results.

Zhang PX, Cheng J, Zou S et al. Pharmacological modulation of the AKT/microRNA-199a-5p/CAV1 pathway ameliorates cystic fibrosis lung hyper-inflammation Nat Commun. 2015-02-10 [PMID: 25665524] (In vitro)

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. 2014-12-11 [PMID: 25466255] (Func, In-vitro, Mouse)

Wang H, Flannery SM, Dickhofer S et al. A coding IRAK2 variant compromises TLR signaling and is associated with colorectal cancer survival. J. Biol. Chem. 2014-06-19 [PMID: 24973222] (LA, Mouse)

Details:

Fig 3C: Immortalized macrophages were stimulated with 50 ng/ml Flagellin.

Parkunan SM, Astley R, Callegan MC. Role of TLR5 and Flagella in Bacillus Intraocular Infection. PLoS ONE. 2014-06-25 [PMID: 24959742] (LA, Human)

Details:

Fig 6D: Flagellin (NBP2-25289) was used as a positive control to activate TLR5/NF-kB-SEAP reporter cells (NBP2-26277). The TLR5/NF-kB-SEAP reporter cells were used as a positive control model system for studies investigating the role of B. cerus flagellin and TLR5 in intraocular infections.

Klimosch SN, Forsti A, Eckert J et al. Functional TLR5 genetic variants affect human colorectal cancer survival. Cancer Res 2013-12-15 [PMID: 24154872] (Func, Human)

Gillaux C, Mehats C, Vaiman D et al. Functional screening of TLRs in human amniotic epithelial cells. J Immunol. 2011-09-01 [PMID: 21775685]

Details:

TLR ligands: TLR1/2 (IMG-2201), TLR3 (IMG-2203), TLR4 (IMG-2204), TLR5 (IMG-2205), TLR6/2 (IMG-2206), TLR7 (IMG-2207), TLR9 (IMG-2209Hpt). The effects of ligand stimulation was measured by various readout assays, refer to the figures for details (Figs 2-8, S1).





Procedures

MSDS (NBP2-25289)

Hazard Information

Chemical Name: Flagellin, Recombinant, TLR5 ligand

Chemical Formula: Flagellin from S.typhimurium

CAS Number: N/A

EEC-No: N/A

First Aid Measures

Eye Contact: May cause eye irritation.

Skin Contact: May cause skin irritation. May be harmful if absorbed through the skin.

Inhalation: May causes respiratory tract irritation. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

Fire Fighting Measures

Special risks: N/A

Suitable Extinguish Media: Water spray, carbon dioxide, dry chemical powder or appropriate foam.

Accidental Release Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Consult a physician.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. **SPEEDY ACTION IS CRITICAL!**

Ingestion: If swallowed, get medical aid immediately. Only induce vomiting if directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. **SPEED IS ESSENTIAL, OBTAIN MEDICAL AID IMMEDIATELY.** Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes: Consult a physician. Show this safety data sheet to the physician. Move away from the dangerous area.

Handling and Storage

Handling: Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Avoid inhalation. Use personal protective equipment (i.e. impermeable gloves, lab coat or apron).

Store at -20 degrees C. Store in a tightly closed container. Stable under recommended storage conditions

Exposure Controls / Personal Protection

Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: Odorless

Melting Point: No data available

Boiling Temperature: No data available

Density: No data available

Vapor Pressure: No data available

Solubility in Water: Very soluble

Flash Point: No data available

Explosion limits:: No data available

Ignition Temperature: No data available

Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur.

Materials to avoid: Strong oxidizing agents.

Hazardous Decomposition Products: Decomposition products are not hazardous.

HMIS Classification: Health Hazard 1, Flammability Hazard 0, Reactivity Hazard 0

NFPA Rating: Health Hazard 1, Fire 0, Reactivity Hazard 0.



Disposal Considerations

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Must not be disposed together with household garbage.

Other Information

The information contained in this material safety datasheet is believed to be accurate but it is the responsibility of the user or supplier to determine the applicability of these data to the formulation of necessary safety precautions. NOVUS shall not be held responsible for any damage resulting from the use of the above product or the information contained in this material safety data sheet.



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