

# Product Datasheet

## CpG oligodeoxynucleotides

### NBP2-26237

Unit Size: 9 Vials

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

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**NBP2-26237**

CpG oligodeoxynucleotides

Product Information	
Unit Size	9 Vials
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	
Description	<p><b>Mouse Sequence CpG ODN (1585) Type A: 5'</b> G*GGGTCAACGTTGAG*G*G*G*G*G 3'</p> <p><b>Human/Mouse Sequence CpG ODN (2216) Type A: 5'</b> G*GGGGACGATCGTCG*G*G*G*G*G 3'</p> <p><b>Human Sequence CpG ODN (2006) Type B: 5'</b> T*C*G*T*C*G*T*T*T*G*T*C*G*T*T*T*G*T*C*G*T*T 3'</p> <p><b>Mouse Sequence CpG ODN (1826) Type B: 5'</b> T*C*C*A*T*G*A*C*G*T*T*C*C*T*G*A*C*G*T*T 3'</p> <p><b>Mouse Sequence CpG ODN(1668) Type B: 5'</b> T*C*C*A*T*G*A*C*G*T*T*C*C*T*G*A*T*G*C*T 3'</p> <p><b>Mouse Sequence CpG ODN (1018) Type B: 5'</b> T*G*A*C*T*G*T*G*A*A*C*G*T*T*C*G*A*G*A*T*G*A 3'</p> <p><b>Human/Mouse Sequence CpG ODN (C274) Type C: 5'</b> T*C*G*T*C*G*A*A*C*G*T*T*C*G*A*G*A*T*G*A*T 3'</p> <p><b>Human/Mouse Sequence CpG ODN (C695) Type C: 5'</b> T*C*G*A*A*C*G*T*T*C*G*A*A*C*G*T*T*C*G*A*A*C*G*T*T 3'</p> <p><b>Human/Mouse Sequence CpG ODN (C792) Type C: 5'</b> T*C*G*A*A*C*G*T*T*C*G*A*A*C*G*T*T*C*G*A*A*C*G*T*T*C*G*A*A*T 3'</p> <p>(* Indicates a phosphorothioate modification)</p> <p><b>Functionality:</b> This product is useful for the activation of TLR9 and the stimulation of TLR9 has been reported with 5-20 ug/ml.</p>
Species	Mouse
Kit Components	NBP2-31140SS: 25 ug mouse CpG Type A ODN (1585), NBP2-31136SS: 25 ug human CpG Type A ODN (2216), NBP2-31134SS: 25 ug human CpG Type B ODN (2006), NBP2-31132SS: 25 ug mouse CpG Type B ODN (1826), NBP2-31141SS: 25 ug mouse CpG Type B ODN (1668), NBP2-31142SS: 25 ug mouse CpG Type B ODN (1018), NBP2-31137SS: 25 ug human CpG Type C ODN (C274), NBP2-31138SS: 25 ug human CpG Type C ODN (C695), NBP2-31139SS: 25 ug mouse CpG Type C ODN (C792)
Product Application Details	
Applications	Ligand Activation



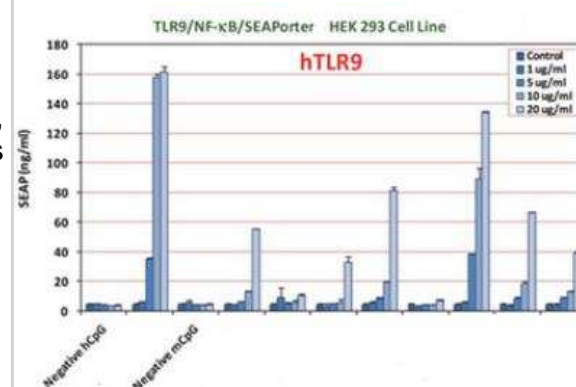
<b>Recommended Dilutions</b>	Ligand Activation 5 - 20 ug/ml
<b>Application Notes</b>	A TLR9/NF-kB SEAP reporter construct in a HEK 293 cell line was used as a model system for studying hTLR9 activation.

## Images

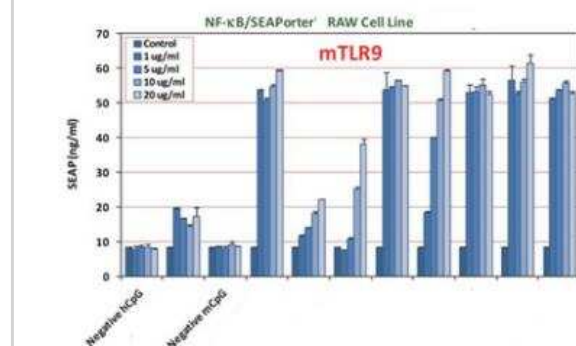
### CpG oligodeoxynucleotides [NBP2-26237]

Type	ODN	Sequence (5'-3')	Qty	Species	QC Test
					(hTLR9) (mTLR9)
A	1585	G'GGGTCAACGTTGAG'G'G'G'G'G	25 ug	M	- +
A	2216	G'GGGGACGATGTCG'G'G'G'G'G	25 ug	HM	+ +
B	2008	T'C'G'T'C'G'T'T'T'G'T'C'G'T' T'T'T'G'T'C'G'T'T'	25 ug	H	+++ **
B	1826	T'C'G'A'T'G'A'C'G'T'T'C'G'T'G' A'C'G'T'T'	25 ug	M	+ ***
B	1668	T'C'G'A'T'G'A'C'G'T'T'C'G'T'G' A'T'G'C'T'	25 ug	M	+ ***
B	1018	T'G'A'C'T'G'T'G'A'A'C'G'T'T'G' G'A'G'A'T'G'A	25 ug	M	- **
C	C274	T'C'G'T'C'G'A'A'C'G'T'T'C'G'A' G'A'T'G'A'T'	25 ug	HM	+++ ***
C	C695	T'C'G'A'A'C'G'T'T'C'G'A'A'C'G' T'T'C'G'A'A'C'G'T'T'	25 ug	HM	** ***
C	G792	T'C'G'A'A'C'G'T'T'C'G'A'A'C'G' T'T'C'G'A'A'C'G'T'T'C'G'A'A'T'	25 ug	HM	+ ***

CpG oligodeoxynucleotides [NBP2-26237] - Evaluation of various CpG ODN effects on activation of human TLR9. TLR9/NF-kB/SEAPorter HEK 293 cells were plated in 96-well plates at  $7.5 \times 10^4$  cells/well for 16 h. Cells were treated with various CpG ODNs at different concentrations (1, 5, 10 and 20 ug/ml) for 24 h. Secreted alkaline phosphatase (SEAP) was analyzed using SEAPorter Assay Kit. Note: Both negative hCpG and mCpG are the negative control ODNs.



CpG oligodeoxynucleotides [NBP2-26237] - Evaluation of various CpG ODN effects on activation of mouse TLR9. NF-kB/SEAPorte RAW cells were plated in 96-well plates at  $7.5 \times 10^4$  cells/ well for 16 h. Cells were treated with various CpG ODNs at different concentrations (1, 5, 10 and 20 ug/ml) for 24 h. Secreted alkaline phosphatase (SEAP) was analyzed using SEAPorter Assay Kit. RAW264.7 cells endogenously express functional TLR9, highly responding to CpG ODNs. Both negative hCpG and mCpG are the negative control ODNs.



## Publications

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 (NBP2-26237)

CpG oligodeoxynucleotides:

#### Hazard Information

Chemical Name CPG ODN 2006 & Negative Control

Chemical Formula CpG ODN- 5' T\*C\*G\*T\*C\*G\*T\*T\*T\*T\*G\*T\*C\*G\*T\*T\*T\*G\*T\*C\*G\*T\*T 3' (\* Phosphorothioate bonds)

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 Powder

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 0, Flammability Hazard 0, Reactivity Hazard 0



NFPA Rating: Health Hazard 0, 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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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Support products are guaranteed for 6 months from date of receipt.

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