

Product Specification Sheet

**ODN 2336 -Type A human specific TLR9 agonist-Controls and Conjugates (antigen grade)**

□ <b>Cat. #ODN2336-1</b>	ODN 2336- Type A human specific TLR9 Agonist, antigen grade	<b>Size: 1 mg</b>
□ <b>Cat. #ODN2336-5</b>	ODN 2336- Type A human specific TLR9 Agonist, antigen grade	<b>Size: 5 mg</b>
□ <b>Cat. # ODN2336-1NC</b>	ODN 2336- Type A human specific TLR9 Agonist (Negative Control), antigen grade	<b>Size: 1 mg</b>
□ <b>Cat. # ODN2336-5NC</b>	ODN 2336- Type A human specific TLR9 Agonist (Negative Control), antigen grade	<b>Size: 5 mg</b>
□ <b>Cat. # ODN2336-F</b>	ODN 2336- Type A human specific TLR9 Agonist <b>FITC</b> Conjugate, antigen grade	<b>Size: 50 ug</b>
□ <b>Cat. # ODN2336-B</b>	ODN 2336- Type A human specific TLR9 Agonist <b>Biotin</b> Conjugate, antigen grade	<b>Size: 50 ug</b>

CpG oligodeoxynucleotides (or CpG ODN) are short single-stranded synthetic DNA molecules that contain an unmethylated CG (Cytosine-guanine) di nucleotide in a specific base sequence (CpG motifs). The p refer to the phosphodiester backbone. These CpG motifs are not seen in eukaryotic DNA are considered pathogen-associated molecular patterns (PAMPs). The CpG PAMP is recognized by (TLR9). 3 types of, stimulatory ODNs have been identified based upon immunostimulatory activities.

Class A stimulate the production of large amounts of Type I interferons, induce the maturation of pDCs. They are also strong activators of NK cells through indirect cytokine signaling.

Class B ODN is strong stimulators of bovine/porcine B cell and monocyte maturation. They also stimulate the maturation of pDC but to a lesser extent than Class A ODN and very small amounts of IFN $\alpha$ .

Class C ODN combine features of both types A and B. They contain a complete phosphorothioate backbone and a CpG-containing palindromic motif. They induce strong IFN $\alpha$  production from DC and B cell stimulation.

**ODN 2336** is a TLR9. Type A human specific TLR9 agonist.

**Cat. #:ODN2336-1 & ODN2336-5**

<b>Sequence</b>	5'-gggG <u>A</u> CGACGT <u>C</u> GTGgggggg-3' (21 mer)
<b>Purity</b>	≥95%
<b>Form and storage</b>	Powder. After reconstitution, Store at -20C up to 1 year
<b>Shipping</b>	Shipped at 4° C
<b>Endotoxin</b>	<0.002 EU/μg
<b>Solubility</b>	water, PBS or other buffers (up to 5 mg/ml)

**Notes:**

- 1) Bases in capital are phosphodiester and those in lower case are phosphorothioate. Palindromic sequences are underlined.
- 2) Negative control Contains GpC nucleotides instead of CpG.

**Cat. #:ODN2336-1NC & Cat. #:ODN2336-5NC (negative control)**

<b>Sequence</b>	5'- gggGAGCAGCTGCTGgggggg -3' (21 mer)
<b>Purity</b>	≥95%
<b>Form and Storage</b>	Powder. After reconstitution, Store at -20C up to 1 year
<b>Shipping</b>	Shipped at 4° C
<b>Endotoxin</b>	<0.002 EU/μg
<b>Solubility</b>	water, PBS or other buffers (up to 5 mg/ml)

**Cat. #:ODN2336-F, FITC Conjugate**

<b>Sequence</b>	5'-gggG <u>A</u> CGACGT <u>C</u> GTGgggggg-FITC (21 mer)
<b>Purity</b>	≥95%
<b>Form and Storage</b>	Powder. After reconstitution, Store at -20C up to 1 year
<b>Shipping</b>	Shipped at 4° C
<b>Endotoxin</b>	<0.002 EU/μg
<b>Solubility</b>	water, PBS or other buffers (up to 5 mg/ml)

**Cat. #:ODN2336-B, Biotin Conjugate**

<b>Sequence</b>	5'-gggG <u>A</u> CGACGT <u>C</u> GTGgggggg-Biotin' (21 mer)
<b>Purity</b>	≥95%
<b>Form and Storage</b>	Powder. After reconstitution, Store at -20C up to 1 year
<b>Shipping</b>	Shipped at 4° C
<b>Endotoxin</b>	<0.002 EU/μg
<b>Solubility</b>	water, PBS or other buffers (up to 5 mg/ml)

**General references:** Krieg, A.M nature. Ballaz ZK(2001) 167(9). Bauer, (2001).PNAS98(16):9237-42 Zhongguo Shi (2009) 17(4):874-8.

*\*for in vitro research only\**

**Related Items**

Catalog#	ProdDescription
ODN006-1	ODNBW006 Type B CpG ODN structure feature at the 5' and A-type CpG ODN structure feature at the 3' end
ODN1668-1	ODN 1668-Type B murine TLR9 Agonist-Antigen grade
ODN1668-1NC	ODN 1668-Type B murine TLR9 Agonist (Negative Control), antigen grade
ODN1826-1	ODN 1826- Type B murine TLR9 Agonist-antigen grade
ODN2006-1	ODN 2006 -Type B-human TLR9 agonist-antigen grade
ODN2007-1	ODN 2007-Type B bovine/porcineTLR9 agonist-antigen grade
ODN2216-1	ODN 2216-Type A human TLR9 Agonist -antigen grade
ODN2395-5	ODN 2395-Type C human/murine TLR9 agonist-antigen grade
ODN4084F-1	ODN 4084-Type B Inhibitory TLR9 Antagonist.-antigen grade
ODN4084F-5	ODN 4084-Type B Inhibitory TLR9 Antagonist.-antigen grade
ODNTT-1NC	ODN TTAGGG-Class G Human-TLR 9 Antagonist, antigen grade
SIODN-1	Inhibitory iODN- class I/II hybrid, may also affect TLR7 and TLR8 signaling.

ODN2336

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