

|                             |   |                    |
|-----------------------------|---|--------------------|
| □ <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>ACGACGTCGT</u> Ggggggg-3'<br>(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>ACGACGTCGT</u> Ggggggg-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>ACGACGTCGT</u> Ggggggg-Biotin'<br>(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

rev140220N