ALPHA DIAGNOSTIC INTERNATIONAL

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|---|---|---|
| □ **Cat. #ODN2088-1** | ODN 2088- Class I-Murine TLR9 Antagonist, antigen grade | **Size: 1 mg** |
| □ **Cat. #ODN2088-5** | ODN.2088- Class I-Murine TLR9 Antagonist antigen grade | **Size: 5 mg** |
| □ **Cat. #ODN2088-1NC** | ODN 2088- Class I-Murine TLR9 Antagonist (Negative Control), antigen grade | **Size: 1 mg** |
| □ **Cat. #ODN2088-5NC** | ODN 2088- Class I human/murine TLR9 Agonist (Negative Control), antigen grade | **Size: 5 mg** |

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.

Three major classes of immunostimulatory CpG-ODNs are well characterized Class A stimulate the production of large amounts of Type I interferons and are strong activators of NK cells through indirect cytokine signaling. Class B ODN is strong stimulators of human B cell and monocyte maturation. 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-α production from pDC and B cell stimulation.

Several groups have studied the sequence requirements, specificity, signaling pathways and kinetics of the TLR (Toll-like receptor) 9 suppression by 'inhibitory DNA motifs', which led to a revised classification of inhibitory ODNs.

Class I: G-stretch ODNs: TLR9-specific competitors, some iODNs may also affect TLR7 and TLR8 signaling
Class II: ODNs with telomeric repeats: TLR-independent inhibitors of STAT signaling (cellular uptake via an "ODN receptor"?)
Class III: Inhibitors of DNA uptake in a sequence independent manner
Class IV: Long phosphorothioate ODNs as direct competitors of TLR9 signaling in a sequence independent manner

**ODN2088** is a Class I inhibitory ODN. These ODNs are TLR9-specific competitors that may also affect TLR7 and TLR8 signaling.TLR9-specific competitors. Inhibitory ODNs act by disrupting the co localization of CpG ODNs.

### Cat. #:ODN2088–1 & ODN2088-5

| **Sequence** | 5'-tcctggcggggaagt-3' (15 mer) |
|---|---|
| **Mol. Wt** | 4887 |
| **Purity** | ≥95% |
| **Form and storage** | Powder. Store at -20C up to 1 year. |
| **Shipping** | Shipped at 4° C |
| **Endotoxin** | <0.002 EU/µg |
| **Solubility** | 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 has replaced bases in inhibitory sequence. Contains Gp

### Cat. #:ODN2088-1NC & Cat. #:ODN2088-5NC (negative control)

| **Sequence** | 5'-tcctgagcttgaagt-3' (15 mer) |
|---|---|
| **Mol. Wt.** | 4887 |
| **Purity** | ≥95% |
| **Form and Storage** | Powder. Store at -20C up to 1 year. |
| **Shipping** | Shipped at 4° C |
| **Endotoxin** | <0.002 EU/µg |
| **Solubility** | Water, PBS or other buffers (up to 5 mg/ml) |

**General references:** Krieg,A.M(1995).Nature, 374(6522):546-9..Ballaz ZK(2001) 167(9). Bauer, (2001).PNAS.98(16):9237-42. Gursel (2003). J Immunol. 171(3):1393-400. Stunz LL (2002). Eur J Immunol. 32(5): 1212-22

**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. |

**ODN2088** rev**140220N**

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