ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

ODN 2216 -Type A human TLR9 agonist-Controls and Conjugates (antigen grade)

□ **Cat. # ODN2216-1**	ODN 2216- Type A human TLR9 Agonist, antigen grade	**Size: 1 mg**
□ **Cat. # ODN2216-5**	ODN 2216- Type A human TLR9 Agonist, antigen grade	**Size: 5 mg**
□ **Cat. # ODN2216-1NC**	ODN 2216- Type A human TLR9 Agonist (Negative Control), antigen grade	**Size: 1 mg**
□ **Cat. # ODN2216-5NC**	ODN 2216- Type A human TLR9 Agonist (Negative Control), antigen grade	**Size: 5 mg**
□ **Cat. # ODN2216-F**	ODN 2216- Type A human TLR9 Agonist FITC Conjugate, antigen grade	**Size: 50 ug**
□ **Cat. # ODN2216-B**	ODN 2216- Type A human TLR9 Agonist Biotin Conjugate, antigen grade	**Size: 50 ug**

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 are strong stimulators of bovine/porcrine 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 IFNα.

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 DC and B cell stimulation.

ODN 2216 is a TLR9. Type A human specific TLR9 agonist. In studies in leukemia patients ODN 2216 induced higher concentrations of IFN-gamma, IL-12 in supernatant .The percentages of Th1 and Tc1 cells increased significantly after culture with CpG ODN 2216 as compared with control group. The killing effect of peripheral blood mononuclear cells (PBMNCs) on K562 cells (a tumor cell line) was significantly different between the stimulated group and control group. It was concluded that CpG ODNs 2216 can induce strong Th1-like immune activation, with the secretion of type-I cytokine and activation of strong CD8(+) T-cell responses. PBMNCs activated by CpG ODNs can more strongly kill k562 cells in vitro.

Cat. #:ODN2216–1 & ODN2216-5

Sequence	5'ggGGGACGATCGTCgggggg-3'(20 mer)
Mol. Wt	6644
Purity	≥95%
Form and storage	Powder. Store at -20C up to 1 year.
Shipping	Shipped at 4º 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 Contains GpC nucleotides instead of CpG.

Cat. #:ODN2216-1NC & Cat.#:ODN2216-5NC (negative control)

Sequence	5'ggGGGAGCATGCTGgggggc -3' (20 mer)
Mol. Wt.	6644
Purity	≥95%
Form and Storage	Powder. Store at -20C upto 1 year.
Shipping	Shipped at 4º C
Endotoxin	<0.002 EU/µg
Solubility	water, PBS or other buffers (up to 5 mg/ml)

Cat. #:ODN2216-F, FITC Conjugate

Sequence	5'ggGGGACGATCGTCgggggg-FITC'(20 mer)
Purity	≥95%
Form and Storage	Powder. Store at -20C upto 1 year.
Shipping	Shipped at 4º C
Endotoxin	<0.002 EU/µg
Solubility	water, PBS or other buffers (up to 5 mg/ml)

Cat. #:ODN2216-B, Biotin Conjugate

Sequence	5'ggGGGACGATCGTCgggggg-biotin '(20 mer)
Purity	≥95%
Form and Storage	Powder. Store at -20C upto 1 year.
Shipping	Shipped at 4º 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. 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.

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