

ODN 1668

Cat. No.:	HY-150726	
CAS No.:	1186063-66-0	
Molecular Weight:	6364.1	
Sequence:	DNA, d(P-thio)(T-C-C-A-T-G-A-C-G-T-T-C-C-T-G-A-T-G-C-T)	DNA, d(P-thio)(T-C-C-A-T-G-A-C-G-T-T-C-C-T-G-A-T-G-C-T)
Target:	Toll-like Receptor (TLR)	
Pathway:	Immunology/Inflammation	
Storage:	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)	

SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 20 mg/mL (3.14 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		Concentration	1 mg	5 mg	10 mg
	1 mM		0.1571 mL	0.7857 mL	1.5713 mL
	5 mM		---	---	---
	10 mM		---	---	---

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description	ODN 1668, a class B CpG ODN (oligodeoxynucleotide), is a TLR-9 agonist. ODN 1668 is an immunostimulatory sequence and can be used as vaccine adjuvant. Sequence: 5'-tccatgacgttctgatgct-3' ^{[1][2]} .	
IC₅₀ & Target	TLR9	
In Vitro	ODN 1668 induces TNF-α secretion and promotes polyclonal B cell activation ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	ODN 1668 (10 nmol) stimulates responses to protein antigen ^[1] . ODN 1668 (1 or 5 mg/kg; i.p. or s.c.; once) causes moderate fever and anorexia in rats ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	C57BW6 mice ^[1]
	Dosage:	10 nmol

Administration:	300 µg OVA (ovalbumin) in PBS or liposomes containing OVA were injected with or without 10nmol ODN in the hind footpads of C57BW6 mice. A boost of the same inoculum was given at 2 weeks, and 1 week later blood was taken for serum antibody titering.
Result:	Strongly potentiated the antibody response and induced class switching toward IgG2a and IgG2b. Showed B cell blast formation and a more than twofold increase in B7.2 (CD86) and IL-2 receptor-α (CD25) surface expression.
Animal Model:	Male Wistar rats with body weights in the range of 175–200 g ^[2]
Dosage:	1 mg/kg or 5 mg/kg
Administration:	Intraperitoneal and subcutaneous injection, once
Result:	Caused moderate fever and anorexia. Induced a significant increase of IL-6. Increased expression of inflammatory genes and activated inflammatory transcription factors.

REFERENCES

[1]. Lipford GB, et al. CpG-containing synthetic oligonucleotides promote B and cytotoxic T cell responses to protein antigen: a new class of vaccine adjuvants. *Eur J Immunol.* 1997 Sep;27(9):2340-4.

[2]. Damm J, et al. Intraperitoneal and subcutaneous injections of the TLR9 agonist ODN 1668 in rats: brain inflammatory responses are related to peripheral IL-6 rather than interferons. *J Neuroimmunol.* 2014 Dec 15;277(1-2):105-17.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA