

CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

Product name	Non-CpG DNA, Rabbit		
Catalog number	HC4042		
Lot number	-	Expiry date	-
Volume	Reconstitute with distilled/de ionized water	Activity	N.A.
Formulation	Lyophilized purified 24-mer non-CpG ODN	Amount	200 nmol (1694 µg)
Host Species	24-mer non-CpG ODN	Concentration	N.A.
Endotoxin	<24 EU/mg	Purification	N.A.
Storage	4°C	Purity	>95%

Application notes

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #								
Yes					•			
No								
N.D.	•	•	•	•		•	•	•

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot

- FS: Non-CpG-DNA can be used as control and as inhibitor in biological assays in vitro for rabbit cells. For in vitro stimulation, 0.05 to 3 µM can be used. It is recommended that users test the reagent and determine their own optimal concentrations.

General Information

Description ODN 2041 is a prototype of non-CpG oligodeoxynucleotides (ODN) that is not able to stimulate rabbit PBMC in vitro. The vertebrate immune system has evolved innate immune defense pattern recognition receptors (PRRs) that detect unmethylated cytosine-phosphate-guanine (CpG) motifs within bacterial DNA. Cellular activation by CpG motifs occurs via the Toll signal pathway. The Toll-like receptor-9 (TLR9, CD289) appears to be a major component of the CpG-DNA receptor, acting by direct binding to CpG-DNA, which triggers the induction of cell signaling pathways including the mitogen activated protein kinase (MAPKs) and NFκB, leading to stimulation of various cells of the immune system. The human TLR9 is expressed in B cells and plasmacytoid dendritic cells (PDC). Mice also express TLR9 in the myeloid compartment. Optimal sequences for activating TLR9 vary among species. Synthetic ODN contain CpG-DNA motifs mimicking the immunostimulatory effects of bacterial DNA and can, therefore, be used as immunoprotective agents, vaccine adjuvants and anti-allergic agents. CpG ODN also affects immune tolerance and autoimmunity. Different classes of CpG ODN are characterized each with distinct effects on the immune response: CpG-A ('D'-type), CpG-B ('K'-type), and CpG-C. This non-CpG is a 24-mer ODN that is not able to modulate stimulate rabbit PBMC in vitro. It has the following sequence: 5'-ctggcttctctggtttttctgg-3'. Regular letters represent phosphorothioate linkage.

- References**
- Krieg, A; CpG motifs in bacterial DNA and their immune effects. Annu Rev Immunol 2002, 20: 709
 - Vollmer, J et al; Characterization of three CpG oligodeoxynucleotide classes with distinct immunostimulatory activities. Eur J Immunol 2004, 34: 251
 - Jurk, M et al; C-class CpG ODN: sequence requirements and characterization of immunostimulatory activities on mRNA level. Immunobiology 2004, 209: 141
 - Sivori, S et al; Comparison of different CpG oligodeoxynucleotide classes for their capability to stimulate human NK cells. Eur J Immunol 2006, 36: 1-7

Storage&stability Caution: vial is under vacuum. Lyophilized product should be stored at 4°C. Store stock solution in aliquots at -20°C. Repeated freeze and thaw cycles will cause loss of activity. Under recommended storage conditions, product is stable for one year.

Precautions

For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC
Robbert Zwinkels

Date
29/03/2018

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.