

**CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET**

<b>Product name</b>	CpG-B DNA, Rabbit	<b>Expiry date</b>	-
<b>Catalog number</b>	HC4038	<b>Activity</b>	N.A.
<b>Lot number</b>	-	<b>Amount</b>	200 nmol (1398 µg)
<b>Volume</b>	Reconstitute with distilled/de ionized water	<b>Concentration</b>	N.A.
<b>Formulation</b>	Lyophilized purified 22-mer CpG ODN	<b>Purification</b>	N.A.
<b>Host Species</b>	22-mer CpG ODN	<b>Purity</b>	>95%
<b>Endotoxin</b>	<24 EU/mg		
<b>Storage</b>	4°C		

**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: CpG-DNA can be used in biological assays in vitro to activate rabbit cells. Furthermore, CpG-DNA can be used as an immune modulating agent. 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**

<b>Description</b>	ODN 2007 is a prototype of CpG oligodeoxynucleotides (ODN) that is 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 CpG is a 22-mer ODN that is able to modulate the immune response in rabbit PBMC in vitro. It has the following sequence: 5'- <b>tcg</b> <b>tcg</b> ttgt <b>tcg</b> ttt <b>tcg</b> tt-3'. Regular letters represent phosphorothioate linkage and bold letters represent CpG dinucleotides.
<b>References</b>	<ol style="list-style-type: none"> <li>Krieg, A; CpG motifs in bacterial DNA and their immune effects. <i>Annu Rev Immunol</i> 2002, <i>20</i>: 709</li> <li>Ioannou, X et al; Safety and efficacy of CpG-containing oligodeoxynucleotides as immunological adjuvants in rabbits. <i>Vaccine</i> 2003, <i>21</i>: 4368</li> </ol>
<b>Storage&amp;stability</b>	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.
<b>Precautions</b>	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](mailto:support@hycultbiotech.com).

