



CpG DNA ADJUVANT IN AVIAN VACCINES



ABSTRACT

A CpG DNA adjuvant in avian vaccines is disclosed, which includes an immuno-stimulatory oligodeoxynucleotide (ODN) having a plurality of TCG tandem repeats at a 5' end, a poly-G structure at a 3' end, and at least one unmethylated CpG motif with avian specific flanking sequences at two ends thereof between the 5' end and the 3' end. The CpG DNA adjuvant in avian vaccines is advantageous for large-scale production; specifically enhanced avian innate and adaptive immune responses, and the CpG DNA adjuvant is difficult to be digested by DNase due to its particular structures.

The Invention

Accordingly, an aspect of the present invention provides a CpG DNA adjuvant in avian vaccines, which includes an immuno-stimulatory oligodeoxynucleotide (ODN) having a plurality of TCG tandem repeats at a 5' end, a poly-G structure at a 3' end, and at least one CpG motif with avian specific flanking sequences at two ends thereof between the 5' end and the 3'

end. The CpG DNA adjuvant in avian vaccines is advantageous for carrying out large-scale production, specifically to enhance avian innate and adaptive immune responses, and to facilitate cellular uptake of the CpG DNA adjuvant.

According to the aforementioned aspect of the present invention, a CpG DNA adjuvant in avian vaccines is provided, which includes an immuno-stimulatory ODN having a plurality of TCG tandem repeats at a 5' end, a poly-G structure essentially consisted of 4 to 6 guanines at a 3' end, and at least one unmethylated CpG motif with avian specific flanking sequences at two ends thereof between the 5' end and the 3' end thereof.

The CpG DNA adjuvant in avian vaccines is advantageous for carrying out large-scale production, specifically to enhance avian innate and adaptive immune

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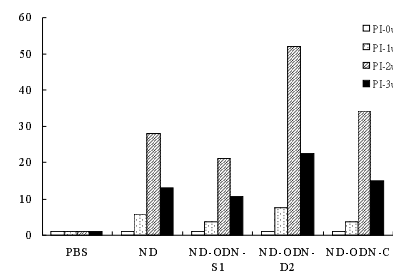


Fig. 1 : HI titer of chickens co-immunized with ND commercialized vaccine and the CpG DNA adjuvant according to a preferred embodiment of the present invention.

responses and facilitate CpG DNA adjuvant cellular uptake instead of the prior DNA adjuvant modified using complicated chemical processes.

Field of the Invention

This invention relates generally to a vaccine adjuvant and more particularly, to a CpG DNA adjuvant in avian vaccines.

