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Immunotherapeutic Potential of CpG Oligonucleotides in Chickens

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Synthetic oligodeoxynucleotides (ODN) containing CpG motifs activate innate and adaptive immune responses in numerous vertebrate species. The protective effects of CpG ODN against viral, bacterial and protozoal pathogens have been well documented in various mouse models of disease. CpG ODN are also being evaluated in humans as an immunotherapeutic agent against infectious diseases, cancer, allergy and as a vaccine adjuvant. In species of veterinary importance where the immune activity of CpG ODN has been investigated, CpG ODN has shown the greatest potential in chickens, as indicated by its protective effects against experimental bacterial infections. Surprisingly, chicken do not appear to express Toll-like receptor 9 (TLR9), the receptor that is involved in CpG-mediated immune activation in humans and many animal species. We will review progress on CpG research with particular emphasis on avian species.

Keywords: [avian vaccines](#), [chicken](#), [CpG ODNs](#), [immunity](#), [therapeutic potentials](#)

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