

DEVELOPMENT OF CONCAVALIN A COMPETITIVE ELISA (C-CON A-ELISA) FOR SERODIAGNOSIS OF NEWCASTLE DISEASE IN WILD PIGEONS

(DESENVOLVIMENTO DE ELISA COMPETITIVO COM CONCAVALINA A (C-CON A-ELISA) PARA O SERODIAGNÓSTICO DA DOENÇA DE NEWCASTLE EM POMBOS DE VIDA-LIVRE)

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The Newcastle disease is viral and spreads very quickly, affecting a wide range of species of domestic and wild birds, in addition to the species *Gallus gallus*. Numerous serological tests have been developed to detect antibodies against Newcastle disease virus (NDV), such as the hemagglutination inhibition test (HI), which presents standardization difficulties for the analysis of sera of some species of wild birds and the ELISA indirect method. The latter, however, is not suitable to detect antibodies of most species of non-galliformes birds since these birds immunoglobulins do not cross-react with anti-IgG conjugated immunoassays of chicken, used in commercial ELISA kits for NDV. As an alternative serological testing, the C-Con A-ELISA method was developed in this study to detect and quantify the NDV antibodies in the serum of free-living birds. The comparison between C-CON A-ELISA and HI for the detection of antibodies in sera from 107 pigeons yielded indices of sensitivity (100%), specificity (95.8%), accuracy (96.3%), agreement ($k = 0.83$) and statistically high correlation ($r = 0.875$). These values demonstrate that the C-CON A-ELISA was able to detect efficiently the antibodies against the Newcastle disease virus in sera of free-living pigeons. Furthermore, the great potential of this method alternative to ELISA for the immuno-diagnosis of NDV infection in free-living birds was highlighted, especially due to its high sensitivity and the possibility to assess more quickly and practically a larger number of samples from pigeons, or even other non-galliform bird species.

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