

**TISSUE DISTRIBUTION AND VIRAL LOAD OF A BRAZILIAN VARIANT OF
INFECTIOUS BRONCHITIS VIRUS (IBV) AFTER EXPERIMENTAL INFECTION IN
CHICKENS**

*(DISTRIBUIÇÃO TECIDUAL E CARGA VIRAL DE UMA VARIANTE BRASILEIRA DO VÍRUS DA
BRONQUITE INFECCIOSA (VBI) APÓS INFECÇÃO EXPERIMENTAL EM GALINHAS)*

**F. S. FERNANDO¹, R. M. DOS SANTOS¹, K. R. SILVA¹, E. S. DE OLIVEIRA¹,
M. F. S. MONTASSIER¹, H. J. MONTASSIER^{2*}**

IBV is a coronavirus (CoV) that infects birds of the species *Gallus gallus*, and causes significant economic losses to poultry production. The CoVs have a high rate of genetic variability, leading to the emergence of genetic variant strains that can exhibit different pathogenicity and tissue tropism. This study aims to evaluate a Brazilian isolate of IBV (IBVPR-12) previously characterized as S1-variant genotype in order to determine the tissue distribution after experimental infection in specific pathogen free White Leghorn chickens. The viral load was measured by real time RT-qPCR. Samples of trachea, lung, spleen, kidney, gonads and caecal tonsils (CT) were collected, at intervals of 4, 7, 11, 14 and 21 days post infection (dpi). The peak of viral replication in trachea was detected at 4 dpi, declining to complete viral clearance at 21 dpi. The lung showed the highest viral load at 7 dpi, and lesser virus replication was detected until 21 dpi. However, higher viral loads were observed in kidneys and testicles, and the highest number of viral copies was found at 11 dpi. The viral loads remained high in these organs up to 21 dpi. In CT, the variant IBVPR-12 reached the highest replication at 7 dpi, and the viral load declined from this point in time to 21 dpi. No IBV was detected in the spleen. Although IBV primarily infect cells of the respiratory system as the Massachusetts strain, the Brazilian variant demonstrated greater tropism for the uro-genital tract. These results may be related to changes in S1 gene and in the amino acid sequences of the S1 glycoprotein, which is known as determinant for tropism and infectivity of IBV in the natural host. Concluding, the variant IBVPR-12 has marked tropism for kidney and testicles, besides its tropism for respiratory tract, which is characteristic of variant phenotype of IBV.

¹Programa de pós-graduação, Faculdade de Ciências Agrárias e Veterinárias - UNESP Jaboticabal, SP, Brasil.

^{2*}Departamento de Patologia Veterinária, Faculdade de Ciências Agrárias e Veterinárias -UNESP- Jaboticabal. E-mail: heliojm@fcav.unesp.br