

**Detection of H5, H7 and H9 subtypes of avian influenza viruses by multiplex reverse transcription-polymerase chain reaction.**

ABSTRACT

Subtype-specific multiplex reverse transcription-polymerase chain reaction (RT-PCR) was developed to simultaneously detect three subtypes (H5, H7 and H9) of avian influenza virus (AIV) type A. The sensitivity of the multiplex RT-PCR was evaluated and compared to that of RT-PCR–enzyme-linked immunosorbent assay (ELISA) and conventional RT-PCR. While the sensitivity of the multiplex RT-PCR is as sensitive as the conventional RT-PCR, it is 10 times less sensitive than RT-PCR–ELISA. The multiplex RT-PCR is also as sensitive as the virus isolation method in detecting H9N2 from tracheal samples collected at day 3 and 5 post inoculation. Hence, the developed multiplex RT-PCR assay is a rapid, sensitive and specific assay for detecting of AIV subtypes.

**Keyword:** H9N2 subtype; Multiplex RT-PCR; Type A avian influenza virus infections.