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## Reverse transcriptase PCR: A researcher choice to detect avian infectious bronchitis virus

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Since 1931 Avian Infectious Bronchitis (IBV) can be summarized as the causative for different pathological changes in organs like renal, enteric and reproductive in the chickens (breeders, layers and broilers). A great diversity of strains is seen in IBV in worldwide distribution. IBV is responsible to cause disease in multi organs and be life-threatening as well as a great threat economically. To detect this disease and to ensure the proper vaccine regime against specific strain, diagnosis of that disease and its particular strain plays a major role. The best way to detect the strain is through Reverse transcriptase PCR (RT-PCR). RT-PCR involves the genomic regions, which are highly preserved for a specific pathogen and set of particular primers are used to amplify the specific sequence to which the agent is to be detected. For the diagnosis of IBV, the gene that encodes the N nucleoprotein and other part which do not encode any protein is located at the last of IBV genome. This last part is of great value in the replication process and is known as the 3'untranslated region. So by using this method, it is possible to diagnose different IBV genotypes and serotypes virtually. However, there is a setback that does not permit differentiating the IBV strains, which allows differentiating the region that allows the detection of strains. So in this case, the S glycoprotein spike in the gene which is specific for each serotype and genotype and it can be used as a novel platform to detect IBV strains. Therefore it is possible for a researcher to diagnose IBV through RT-PCR.

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