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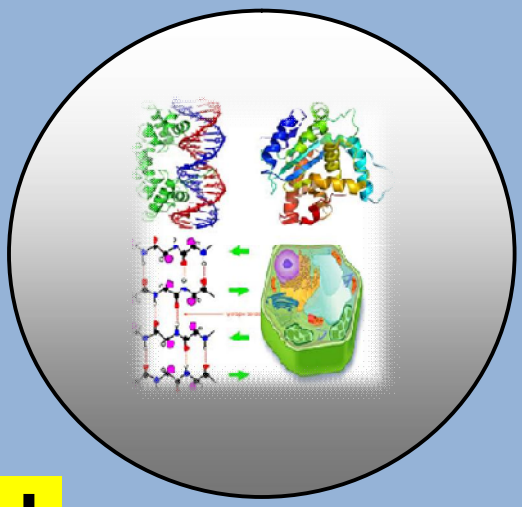
ISSN 0970-4973 Print
ISSN 2319-3077 Online/Electronic

Global Impact factor of Journal: 0.756
Scientific Journals Impact Factor: 2.597
Index Copernicus International Value
IC Value of Journal 4.21 Poland, Europe

J. Biol. Chem. Research
Volume 32 (1) 2015 Pages No. 64-65



Journal of Biological and Chemical Research
An International Journal of Life Sciences and Chemistry

Indexed, Abstracted and Cited in Various National and International Scientific Databases of the World

Published by Society for Advancement of Sciences®

J. Biol. Chem. Research. Vol. 32, No. 1: 64-65, 2015
(An International Journal of Life Sciences and Chemistry)

ISSN 0970-4973 (Print)
ISSN 2319-3077 (Online/Electronic)

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SHORT COMMUNICATION
Received: 03/12/2014 Revised: 10/12/2014 Accepted: 01/01/2015

Molecular Characteristics of Avian Influenza Virus Isolates Recovered from Infected Poultry Birds: A Brief Review

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ABSTRACT

Highly pathogenic avian influenza has not been detected in India so far. H9N2, the non-pathogenic subtype of avian influenza virus was isolated from poultry at High Security Animal Disease Laboratory, Indian Veterinary Research Institute, Bhopal, India. But there is a constant threat posed by migratory birds that might bring pathogenic strains along with them to our country.

Keywords: Avian influenza virus, Poultry, Molecular Characteristics, Pathogenic Strain and Migratory Birds.

INTRODUCTION

In recent years, outbreaks in poultry due to viruses of H9 subtypes, especially H9N2 have been widespread (Guan *et al.,* 1999). Crossing the species barrier to mammals highlights the pandemic potential of H9N2 virus (Peiris *et al.,* 1999*a*,*b*). The outbreaks due to H9N2 subtypes have been reported in Germany, Italy, Ireland, South Africa, USA, Korea, China, Middle East, Saudi Arabia and Pakistan during the latter half of last decade (Alexander, 2000; Banks *et al*., 2000). The key to influenza pandemic preparedness is good surveillance for influenza viruses (Guan *et al.,* 1999). Today, modern laboratory techniques, clinical and epidemiologic knowledge, and global communication provide the opportunity to monitor the evolving outbreak and act on it (Hien *et al.,* 2004). Thus, continuous screening of the samples from Indian poultry and identification of the subtype of the virus isolated is imperative. Also the pathogenic potential of the isolated subtypes remains to be recognized.

Virus characteristics

The avian Influenza viruses are very stable in allantoic fluid because the presence of protein protects the viruses, making this the most universally used method for isolation of Avian Influenza viruses (Easterday *et al.,* 1997).

In a similar study for rapid detection of influenza virus in humans a real time-PCR was applied targeting matrix gene (Stone *et al.,* 2004). Based on their findings it is now possible to target either the matrix gene or NP gene for real time PCR assay for diagnosis of AIV. Spackman *et al.* (2003) concluded that real-time PCR result is a reliable alternative to virus isolation in embryonated chicken eggs.

SUMMARY

The serological incidence of avian influenza in Indian poultry is very less. Reports are available on predominance of H9N2 subtypes in the Indian poultry.

ACKNOWLEDGEMENTS

The author is immensely thankful to all the investigators worldwide carrying out their tireless noteworthy research in the relevant field under discussion herein this review of importance.

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