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**Publication: Multimeric Recombinant M2e Protein-Based ELISA: A Significant Improvement in Differentiating Avian Influenza Infected Chickens from Vaccinated Ones**

Killed avian influenza virus (AIV) vaccines have been used to control H5N1 infections in countries where the virus is endemic. Distinguishing vaccinated from naturally infected birds (DIVA) in such situations however, has become a major challenge. Recently, we introduced the recombinant ectodomain of the M2 protein (M2e) of H5N1 subtype as a novel tool for an ELISA based DIVA test. Despite being antigenic in natural infection the monomer form of the M2e used in ELISA had limited antigenicity and consequently poor diagnostic capability. To address this shortcoming, we evaluated the use of four tandem copies of M2e (tM2e) for increased efficiency of M2e antibody detection. The tM2e gene of H5N1 strain from Indonesia (A/Indonesia/CDC540/2006) was cloned into a pMAL- p4x expression vector and expressed in E.coli as a recombinant tM2e-MBP or M2e-MBP proteins. Both of these, M2e and tM2e antigens reacted with sera obtained from chickens following live H5N1 infection but not with sera from vaccinated birds. A significantly stronger M2e antibody reaction was observed with the tM2e compared to M2e antigen. Western blotting also supported the superiority of tM2e over M2e in detection of specific M2e antibodies against live H5N1 infection. Results from this study demonstrate that M2e tetramer is a better antigen than single M2e and could be more suitable for an ELISA based DIVA test. [read more](#)

**China: Confirmed H7N9 human case in Jiangsu**

The patient is 58-years-old female, surnamed Tian. She was confirmed H7N9 on 1 November 2014 and is currently under hospital rescue and in critical condition. The patient bought 1 chicken in the market and slaughtered it on site two weeks ago before onset. [read more](#)

**China: Fatal streptococcus suis infection in Hong Kong**

The Centre for Health Protection (CHP) of the Department of Health is today (October 28) investigating a fatal case of infection by *Streptococcus suis*, a kind of bacteria isolated from pigs. The female patient, aged 92 and with underlying illnesses, presented with muscle pain, vomiting and decrease in hearing since October 20. She was directly admitted to Caritas Medical Centre on October 22 for further management and died the same day. Her blood culture grew *Streptococcus suis* upon laboratory testing by Princess Margaret Hospital. [read more](#)

**India: Suspected anthrax in a school boy in Hindupur, Andhra Pradesh**

A case of anthrax was detected in Anantapur district on Friday, forcing the district medical and health authorities to conduct an epidemiological survey - to find out the source of the infection. Anthrax is a bacterial disease transmitted to human beings by animals. It is highly

contagious with a high mortality rate. According to Anantapur district medical and health officer Dr CR Ramasubba Rao, the anthrax case has been detected from Chintapalli, a village bordering the neighbouring state of Karnataka. A class X student contracted the disease and he was admitted in a hospital in Bangalore. The boy was brought to Hindupur government hospital after doctors in Bangalore allegedly refused to provide treatment. [read more](#)

### **Indonesia: Suspected bird flu in Lampung**

Dozens of chickens and ducks are reared by Margajasa Village residents, District Sragi, South Lampung District, died suddenly. Residents worry that the disease will spread to other birds. Diah (42) Margajasa Village residents, District Sragi, said as many as 20 chickens and 12 ducks died suddenly. Where, the incident began on Wednesday (29/10) of 8 chickens and five ducks who were aged five months. After that on Thursday (30/10) as many as 12 chickens and 7ducks died. "For two days, the chickens and ducks died suddenly. We keep poultry that as many as 20 chickens and 12 ducks. Obviously, I know less about the cause. My guess might be exposed to bird flu, "said Diah. [read more](#)

### **Indonesia: Suspected bird flu in East Java**

Attacks against livestock diseases in Pasuruan quite high. Based on the record of the Department of Agriculture, Forestry, Fisheries, and Marine (DPKPK) Pasuruan, from late 2013 until the end of this year, at least five thousand ducks reportedly died suddenly. Thousands of ducks were allegedly died from an attack of bird flu outbreak that is currently affecting poultry in addition to chicken switch. In addition, the bird flu outbreak suspected of spreading due to a genetic mutation of the virus. [read more](#)

### **Malaysia: Suspected leptospirosis in a human in Labuan**

A Labuan Matriculation College student died of suspected leptospirosis on Monday after being admitted to the Labuan Nucleus Hospital here five days ago. Labuan Health Director Dr Ismail Ali said the patient was warded after complaining of high fever, stomach ache, vomiting and diarrhoea. She underwent an appendicitis operation and initially she showed improvement but later her condition began to deteriorate. [read more](#)

### **Philippines: Surigai City running out of anti-rabies vaccines**

Doses of anti-rabies vaccines are running out in Surigao City at a time cases of rabies are rising, causing city health officials to worry, a Mindanao news site reported. City Health Office Animal Bites Treatment Center head Garrote Menor said they cannot give all necessary vaccines to bite victims, according to MindaNews. "We don't have ample supply of these vaccines to give each patient all the necessary vaccines, especially those categorized as level 3," Menor said. [read more](#)