# INTISARI

## Kemampuan Hemaglutinasi Isolat Virus *Newcastle* terhadap Eritrosit Mamalia

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Virus *Newcastle disease* (ND) merupakan salah satu virus patogen penting dalam dunia perunggasan. Virus ND memiliki beberapa sifat biologik seperti aktivitas hemaglutinasi yang diperankan oleh protein hemaglutinin. Penelitian ini bertujuan untuk menentukan kemampuan hemaglutinasi virus ND terhadap eritrosit mamalia meliputi kuda, sapi, kambing, domba.

Dua isolat virus ND, Bro-Yk-2010 dan Layer-Salatiga-2010, yang berupa cairan alantois diidentifikasi ulang menggunakan uji hemaglutinasi (HA) dan hemaglutinasi inhibisi (HI) dengan serum spesifik anti ND. Isolat yang positif virus ND ditentukan sifat biologiknya dengan melakukan uji hemaglutinasi terhadap eritrosit mamalia 0,5%, yaitu kuda, sapi, kambing, dan domba. Virus yang digunakan sebagai kontrol positif adalah virus vaksin galur *La Sota*.

Re-identifikasi isolat dengan uji HA dan HI menunjukkan hasil bahwa Bro-Yk-2010 dan Layer-Salatiga-2010 teridentifikasi sebagai virus ND. Kedua isolat ini kemudian diuji kemampuan hemaglutinasinya terhadap eritrosit mamalia. Hasil uji HA menunjukkan bahwa isolat Layer-Salatiga-2010 dapat menghemaglutinasi eritrosit sapi, kuda, kambing, dan domba, sedangkan isolat Bro-Yk-2010 tidak memiliki kemampuan untuk menghemaglutinasi semua eritrosit mamalia tersebut. Vaksin *La Sota* sebagai kontrol positif menunjukkan hasil HA positif terhadap eritrosit sapi, kuda, kambing, dan domba.

Kata kunci : virus *Newcastle disease*, hemaglutinasi, eritrosit mamalia.

# ABSTRACT

## The Ability of Newcastle Virus Isolates to Hemagglutinate Mammalian Erythrocytes

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Newcastle disease (ND) virus is an important pathogen for poultry worldwide. The Newcastle disease virus possesses several biologic properties such as hemagglutination activity that is role by hemagglutinin protein. The objective of this study was to determine hemagglutination activity of ND virus against mammalian erytrhocytes include horse, cattle, goat, and sheep.

Allantoic fluid was collected from chicken embryo eggs which have been infected by Bro-Yk-2010 and Layer-Salatiga-2010 have been re-identified by hemagglutination (HA) test and hemagglutination-inhibition (HI) test by specific antisera. The biologic property of positive ND virus isolates was determined by hemagglutination test of 0.5% mammalian erythrocytes include horse, cattle, goat, and sheep. The La Sota strain vaccine was used as positive control virus.

Re-identification by HA and HI test showed that Bro-Yk-2010 and Layer-Salatiga-2010 were identified as ND virus. Both of this isolates were tested its ability to hemagglutinate mammalian erythrocytes. The results showed that Layer-Salatiga-2010 isolate could agglutinate horse, cattle, goat, and sheep erythrocytes, but Bro-Yk-2010 did not have ability to hemagglutinate all of those mammalian erythrocytes. La Sota vaccine as positive control gave positive result of HA test against horse, cattle, goat, and sheep erythrocytes.

Keywords : Newcastle disease virus, hemagglutination, mammalian erythrocytes