INTISARI

UJI AKTIVITAS ANTIVIRAL EKSTRAK BIJI SRIKAYA (*Annona squamosa* L.) TERHADAP INFEKSI VIRUS *Avian Influenza* PADA TELUR AYAM BEREMBRIO

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Biji buah srikaya (*Annona squamosa* L.) diketahui mengandung senyawa *Ribosome Inactivating Protein* yang dapat menghambat sintesis protein sel yang terinfeksi virus *Avian Influenza* (AI). Penelitian ini bertujuan untuk mengetahui potensi ekstrak biji srikaya sebagai antiviral terhadap virus *Avian Influenza*.

Penelitian menggunakan ekstrak biji srikaya dan 20 butir telur ayam berembrio *Spesific Pathogen Free* (SPF) yang berumur 11 hari. Kelompok I diberi ekstrak biji srikaya 0,5 μg/ml dan virus AI sebanyak 0,2 ml; kelompok II diberi ekstrak biji srikaya 5 μg/ml dan virus AI sebanyak 0,2 ml; kelompok III diberi ekstrak biji srikaya 50 μg/ml dan virus AI sebanyak 0,2 ml; dan kelompok IV diberi virus AI sebanyak 0,2 ml sebagai kontrol. Virus AI diinokulasikan ke dalam ruang allantois segera setelah inokulasi ekstrak biji srikaya, kemudian diinkubasi selama dua hari. Aktivitas antiviral diamati dengan metode hemaglutinasi lambat. Pada konsentrasi 0,5 μg/ml, 5 μg/ml, 50 μg/ml didapat rata-rata titer hambatan berturut-turut 2^5; $2^{5,}8$; dan $2^{8,2}$. Data yang diamati adalah prosentase hambatan antiviral. Data tersebut dianalisis secara statistik dengan Anova satu jalan dengan tingkat kepercayaan 95%.

Hasil penelitian menunjukkan bahwa ekstrak biji srikaya memiliki aktivitas antiviral terhadap virus AI dengan hambatan konsentrasi ekstrak 0,5 μg/ml, 5 μg/ml dan 50 μg/ml berturut-turut adalah 37,381%; 28,095% dan -3,13%. Angka-angka tersebut kemudian dilanjutkan dengan uji Tukey dan hasilnya adalah berbeda siginifikan ($p<0,05$) antara kelompok perlakuan dan kontrol. Berdasarkan hasil perhitungan statistik, konsentrasi yang terbaik adalah 0,5 μg/ml.

Kata kunci: Antiviral, *Annona squamosa* L., Virus *Avian Influenza*.

ABSTRACT

Antiviral Activity of Sugar Apple's (*Annona squamosa* L.) Seed Extract againts *Avian Influenza* Virus Infection in Chicken Embryonated Egg Model

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Seed of sugar apple known contains a *Ribosome Inactivating Protein*, which can inhibit protein synthesis of cells infected by *Avian Influenza* (AI) virus. The objective of study was to determine sugar apple's seed extract as an antiviral on AI virus.

The research used the sugar apple's seed extract and 20 chicken embryonated eggs 11 days old which were specific pathogen free. Group I was given 0,5 µg/ml sugar apple's seed extract and 0,2 ml AI virus. Group II was given 5 µg/ml sugar apple's seed extract and 0,2 ml AI virus. Group III was given 50 µg/ml sugar apple's seed extract and 0,2 ml AI virus. Group IV was given 0,2 ml AI virus as a control. Avian Influenza virus was inoculated into allantoic sac as soon as possible after inoculation of sugar apple's seed extract, then incubated for two days. Antiviral activity will be observed by hemaglutination (HA) test. The titre in concentration 0,5 µg/ml, 5 µg/ml, 50 µg/ml were showed 2^{5}, $2^{5,8}$, and $2^{8,2}$ respectively. The observed data was the percentage of antiviral inhibition. Analysis of statistical data with one-way Anova with a confidence level of 95%.

The results of this study show that sugar apple's seed extract have an antiviral activity on AI virus growth. The extract concentrate inhibition for 0,5 µg/ml, 5 µg/ml and 50 µg/ml were 37,381%; 28,095% and -3,13% respectively. Those, followed by Tukey test and results showed significant differences ($p<0,05$) between control and treatment. Based on statistic counting, the best concentration was 0,5 µg/ml.

Keywords: Antiviral, *Annona squamosa* L., *Avian Influenza* Virus