

HEMAGGLUTINATING ACTIVITY OF POPPING CORN
(*Zea mays everta*) LECTIN IN ABO BLOOD GROUPS

Undergraduate Research Study
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ABSTRACT

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This study, entitled “Hemagglutinating Activity of Popping Corn (*Zea mays everta*) Lectin in ABO Blood Groups”, aimed to isolate and purify lectin from Popping Corn (*Zea mays everta*), determine the titer strength of Popping corn (*Zea mays everta*) lectin in ABO blood groups, determine what specific ABO blood group antigen would exhibit an agglutination reaction with different fractions of Popping corn (*Zea mays everta*), and determine the best lectin fraction which among all the prepared treatments from Popping corn (*Zea mays everta*) would demonstrate the strongest hemagglutination activity in ABO blood groups. It was conducted from May 2017 to September 2017. Popping corn seeds were purchased from Trimec Trading Corporation. Twenty individuals with different blood types: (5) type A, (5) type B, (5) type AB and (5) type O were the limit for selection of test subjects. The study was conducted at the Department of Medical Technology Laboratory, College of Nursing and University Research Center in Cavite State University, Indang, Cavite.

The protein of Popping corn (*Zea mays everta*) was first isolated before purifying the specific lectin by ammonium sulfate precipitation and fast protein liquid chromatography. After the collection of the isolated and purified lectin, it was stored in refrigerator temperature for a day and tested to blood samples collected from an authorized laboratory for verification. The participants' samples have undergone blood

typing examination before selection of samples to ensure the blood type of each sample. The blood samples were washed and suspended to two percent which was used as one of the reagents in microtiter plate hemagglutination testing. In microtiter plate hemagglutination, the lectin fractions were serially diluted to phosphate-buffered saline solution then gently dislodged before the addition of two percent red cell suspension and incubated at room temperature for an hour. The procedure was done with four trials.

Blood group A has the strongest hemagglutinating activity among all other ABO blood groups, garnering average titer strength of 38 to 160, while 3.75 to 28 from blood group AB, which placed second, and the least with 1.5 to 5 from blood group B. No hemagglutinating activity was observed in blood group O.

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