CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)

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Project Number

J0514

Project Title

Troubled Transfusion: Reactions between Antigens and Antibodies

Abstract

Objectives/Goals

The objective of the project is to resolve how different blood types, with varying antigens and Rhesus factors, react to other antibodies in their rates and severity of agglutination.

Methods/Materials

Synthetic Blood +/-(A,B,AB,O), synthetic antibodies (A,B,AB) magnifying glass, mixing slides, stopwatch, and safety gloves. Used stopwatch to measure the agglutination between various blood types (antigens) and antibodies on mixing slides.

Results

The results of my experiment showed that the blood types reacted the in various aggressions towards antibodies. Those without the presence of the Rhesus factor agglutinated in a clumpier manner, with a small time of reaction, while their positive counterparts were fairly lax. Lastly, blood types only formed agglutination with their corresponding antibodies (at least one) while opposites had no effect.

Conclusions/Discussion

This science project shows the Rh factor and the type of antibody can affect the rate and severity of agglutination in a transfusion of multiple blood types. This can be implemented during the transfusion of blood, or work involving the presence of blood, such as physiology.

Summary Statement

I elaborated on the subject of agglutination in blood types and their antigens, providing consensus that the Rh factor, as well as the type of antibody involved, play drastic roles in the reactions.

Help Received

None; the science project [experiment] was both created and performed by myself at home.