PROTEINS ISOLATED OF PUERARIA RADIX POSSIBLE TO CAUSE ALLERGENIC REACT WITH IMMUNOGLOBULIN E IN HUMAN SERA

[1]YUMI KIM, [2]HYEUNG-JIN JANG

[1]College of Korean Medicine, Kyung Hee University, 26, Kyungheedae-ro, Dongdaemun-gu, Seoul 02447, Republic of Korea
[2] Department of Science in Korean Medicine, Graduate School, Kyung Hee University, Seoul, Republic of Korea

Abstract -
Backgrounds Allergies occur when immunoglobulin E (IgE), which is part of the body's immune system, binds to molecules. A protein in the foods, plants or pollen is usually the problem. This causes the release of inflammatory chemicals such as histamine. There are a few cases where allergies are cause by proteins derived from herbal medicine, but we do not know yet what protein causes the immune react to IgE.
Methods Here, we demonstrate to confirm if the Pueraria Radix at the proteomic level triggers IgEimmunoreactivity. Finally, we present the molecules of the Pueraria Radix-derived protein that trigger the IgE immune response. To prove our hypothesis, we used proteomic tools and SDS-PAGE stained with Coomassie blue and identified proteins using LC-MS/MS. Proteins were separated from Pueraria Radix and allergic reaction sera were selected.
Results We found three positive sera that showed an immune response to Pueraria Radix protein. Positive sera demonstrated a similar pattern of IgE reactivity and mostly restricted to a 50-70 kDa band. Therefore, we have identified number of different IgE binding proteins. Therefore, IgE binding proteins were identified such as enolase, hypothetical protein, DING protein and glycosyl transferase.
Conclusion The results imply that Pueraria Radix can act as an allergen given the identification of IgE binding proteins among the isolated proteins of Pueraria Radix.

Keywords - Pueraria Radix, Immunoglobulin E, Herbal medicine, Allergy