



Why C3d Activation is Important for Food Sensitivities

Dunwoody Labs is an innovator of testing solutions that assist in the diagnosis and management of conditions.

What is the Relationship Between C3d Activation and IgG Reactivity?

Dunwoody Labs' food sensitivity profile quantifies a patient's IgG response to a particular food antigen. This is typically a gut mediated reaction that occurs three to 72 hours after the ingestion. It's important to note that IgG is not the only factor in the reaction level for food sensitivities. To get a more complete look at the patient's response and reaction level to that specific food, we also measure the patient's C3d reaction to that same food. Let us explain why: block IgE, reducing anaphylaxis and symptoms mediated by IgE, however, if high enough it can result in a secondary set of conditions.



Why C3d Activation is so Important in Food Sensitivity Testing

- When activated, the C3 component of the complement system attaches to potential food antigens; these antigens may also induce a response from the acquired immune system.
- Measurement of complement increases inflammatory potential of reaction to foods by 1000 to 10,000 fold
- Complement helps differentiate which IgG titer is more inflammatory versus innocuous
- Complement is the link between the innate immune system and an acquired immune response, differentiating which white blood cells are truly inflammatory, limiting false positives.



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C3d of complement as a molecular adjuvant: bridging innate and acquired immunity

Abstract: An optimal immune response should differentiate between harmful and innocuous antigens. Primitive systems of innate immunity, such as the complement system, may play a role in this distinction. When activated, the C3 component of complement attaches to potential antigens on microorganisms. To determine whether this alters acquired immune recognition, mice were immunized with a recombinant model antigen, hen egg lysozyme (HEL), fused to murine C3d. HEL bearing two and three copies of C3d was 1000- and 10,000-fold more immunogenic, respectively, than HEL alone. Thus, C3d is a molecular adjuvant of innate immunity that profoundly influences an acquired immune response.

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