

LRA by ELISA/ACT® CLINICAL UPDATE # 1

Food Reactivity

Why has my patient come up reactive to foods claimed to have not been eaten?

1) Many foods that a patient may claim to have not eaten are foods which are commonly hidden, such as dairy, additives and preservatives, wheat/ gluten, corn, various sugars, potatoes, soy and eggs. Be sure your patient has not unknowingly eaten them as hidden ingredients in other foods. Most exposures occur in restaurants, friends' homes, and eating prepared and commercial foods.

2) Your patient may have a cross-reactive response to that particular item. For example, there may be immune recognition of an antigen specific to that item that is similar to another already immunologically reactive antigen. This could be a gut pathogen, related food (similar plant or animal species) or chemical.

As an example, your patient may be reactive to potatoes, tomatoes, tobacco, and eggplant and claim they have never eaten eggplant. These foods are all in the nightshade family of plants and have similar antigens. Therefore, your patient may be responding to the eggplant due to cross reactivity.

3) Your patient may be reacting to a contaminant in the food item such as a pesticide. Contaminant reactions are not common but are increasingly becoming a problem.

There are a number of LRA by ELISA/ACT® patients that have been found reactive to a particular food through LRA by ELISA/ACT testing and/or via provocation, who did not experience a reaction when the same food was eaten from an organic source. This is why it is so important to test for more than just foods.

A good example of this is a recent report we received from one of our doctors. He did the LRA by ELISA/ACT on himself and found himself to be reactive to coffee (something that he already suspected). When he tried Cafe Altura, an organically grown coffee, he did not have the usual reactions he would experience with regular, nonorganic coffee. Coffee is one of the most highly pesticide-sprayed food crops imported into this country.

4) Finally, remember, your patient may have eaten that food many years ago as a child and developed a lifelong reaction to it.

Why has my patient come up reactive to a substance not found to be reactive on another allergy test?

1) Your patient may have been previously tested for an immediate hypersensitivity (IgE RAST, skin scratch test) and not a delayed hypersensitivity. The LRA by ELISA/ACT only tests for delayed type hypersensitivities. This is a functional

test indicating direct cell activation which is available only through the LRA by ELISA/ACT tests.

Only the LRA by ELISA/ACT is a comprehensive testing for all (Types II, III, IV) delayed type hypersensitivity reactions. Therefore, the LRA by ELISA/ACT may have picked up some reactions that were missed by other tests (IgG RAST, ELISA IgG-4, Food Immune Complex Assay - FICA).

2) Your patient may have developed this reaction since the last test. If the underlying pathologies contributing to the development of food/chemical hypersensitivities, (enhanced gut permeability, maldigestion and distress) have not been corrected, new hypersensitivities may develop.

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Why has my patient come up nonreactive to a food/chemical known to be reactive?

How does one know they are reactive? Is it through provocation/challenge? If it is, the patient may be reacting, on provocation, to a contaminant such as a mold or pesticide that is in too low a concentration in the LRA by ELISA/ACT testing well to elicit an immune reaction (*in vitro*) but may be in a high enough concentration in the whole substance to cause a reaction on provocation (*in vivo*). Only microtiters of the specific food/chemical/antigen are used in each LRA by ELISA/ACT well. Therefore if the contaminant is a small percentage of the whole substance tested, its concentration in the well may be too small to elicit an LRA by ELISA/ACT reaction. However, some contaminants may be at a high enough concentration to elicit reactions on the LRA by ELISA/ACT as described previously.

For instance, a number of LRA by ELISA/ACT patients previously claiming to react to certain grains, were found to be reacting to molds. All grains are commonly contaminated with mold spores. When these patients substituted with whole grains (nonmilled and uncut) that were nitrogen packed (sealed in packages as opposed to milled/cut flours in bins), and carefully cleaned and rinsed in hydrogen peroxide and water, they had minimal to no reactions when the grains were eaten.

Why is my patient reactive to:

- a) caffeine and not coffee, tea, or chocolate?
- b) casein and not other milk products?
- c) raw milk and not pasteurized milk and visa versa?
- d) corn syrup and not corn?

Regarding a) and b): Caffeine and casein are substances within coffee and milk, respectively. They occur as a percentage

of the whole compound (Caffeine is commonly 2-3% of coffee.). As we discussed earlier with contaminants, when microtiters of a particular compound are used for testing, the concentration of specific substances within that compound may be too small to adequately come in contact with enough lymphocytes to elicit a marked response. This is why we have chosen to provide caffeine and casein, as well as other substances, as single antigens in the LRA by ELISA/ACT test. By doing so, we can assure a more-than-adequate concentration to elicit a significant reaction should there be a sensitivity. Therefore, if a patient is reactive to caffeine or casein, we recommend that they avoid ALL products containing those substances even if not reactive to coffee, tea and cocoa/chocolate, or milk, cheese, and other dairy products.

Regarding c) and d): When various foods are processed in any way, changes in pH, temperature and oxidation reactions commonly occur. Marked changes in pH and temperature and oxidation reactions can change protein structure (hence antigenicity) as well as catalyze the formation of new compounds. It is for this reason that we test various forms of a particular food. In one form it may be antigenic and in another it may not.

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Contact

If you have any questions or would like more information about LRA by ELISA/ACT testing, please contact ELISA/ACT Biotechnologies' Client Services Department at 800-553-5472.