

## BAKERS' ASTHMA ALLERGY PANEL

**Test Name:** Bakers' Asthma Allergy Panel

**Test Code:** 402410

**CPT Code:** 86003 x 8

**Introduction:** Bakers' asthma and bakers' rhinitis are among the most common occupational respiratory diseases <sup>(1)</sup>. It has been estimated that greater than 30% of bakers have flour allergy. Bakers asthma is caused by occupational exposure to the antigens from flour and/or grain dust in bakeries <sup>(2)</sup>. There are multiple potential antigens in bakers' flour and in grain dust. In addition to the allergens from the grains themselves, contaminants of the flour or grain may be important. These would include: mold spores, fungal enzymes, insect and rodent parts, pesticides, pollens, mineral particles, bacteria and mites. Several enzymes, many derived from *Aspergillus* species, are used in the baking industry and these are thought to be important factors in the etiology of bakers' asthma <sup>(3)</sup>. Bakers' asthma is usually linked to the presence of specific IgE, which can be detected by skin test or *in vitro* methods. There does not appear to be any one antigen that initiates asthma in all patients. Thus, it is usually necessary to test with a group of potential allergens.

Allergen-specific IgE tests Included:

$\alpha$ -amylase	Grain Weevil
<i>Alternaria tenuis</i>	Rye food
<i>Aspergillus fumigatus</i>	Soybean
Barley	Wheat

*It should be noted that the allergens can always be ordered individually.*

**Specimen Requirements:** 2.0 mL serum for the panel.  
0.3 mL serum for each individual allergen. Ship at ambient temperature.

**Method:** All tests in the panel performed with the Pharmacia Diagnostics ImmunoCAP® FEIA.

**Related Diseases.** Grain handlers' asthma has some similarity to bakers' asthma but the pathophysiology is often distinct. The following is a list of adverse health effects that have been reported with grain dust exposure <sup>(2)</sup>.

1. Grain dust asthma
2. Extrinsic allergic alveolitis
3. Grain fever
4. Skin rashes
5. Eye, nasal and sinus irritation

**References:**

1. Baur X, Degens PO, Sander I. Bakers' asthma: still among the most frequent occupational respiratory disorders. *J Allergy Clin Immunol* 1998; 102: 984 – 987.
2. O'Hollaren MT. Bakers' asthma and reactions secondary to soybean and grain dust. In *Occupational Asthma*. Edited by Bardana, Montanaro and O'Hollaren. 1992; Hanley & Belfus, Inc., Chapter 11, pp. 125 - 130.
3. Sander I et al Allergy to *Aspergillus*-derived enzyme in the baking industry. *J Allergy Clin Immunol* 1998; 102: 256 – 264.

*For more information, contact*

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