

# Laboratory Tests for Allergy







- All our specific IgE testing is performed on the Phadia ImmunoCAP 250 and Phadia ImmunoCAP 1000 system. As the majority of published studies in allergy use this testing method, it is widely considered the benchmark for quantifying specific IgE.
- The Phadia ImmunoCAP and ISAC systems have the ability to define the molecule in a food to which a patient has significant specific IgE, and therefore provide diagnostic and prognostic information for patients with serious food allergy. This can be achieved by using allergen component ImmunoCAPs (Page 12), or as a profile with the ISAC microarray system (Pages 13-14).
- Due to Medicare funding constraints, the laboratory is unable to accept bulk billing requests for more than very basic allergy testing requests. Please refer to page 15 for billing details.

## Specific IgE Testing

Specific IgE is usually measured to confirm an allergic aetiology for symptoms when there is a history that suggests a possible allergic cause.

All our specific IgE testing is performed on the Phadia ImmunoCAP 250 and Phadia ImmunoCAP 1000 system. As the majority of published studies in allergy use this testing method, it is widely considered the benchmark for quantifying specific IgE.

An advantage of the Phadia ImmunoCAP system is that, for certain key foods, the 95% probability of a positive food challenge has been determined for certain levels of allergen-specific IgE in some populations (see Table 1). We will continue to report allergen specific IgE values in kU/L and a semiquantitative class value. Please note that some patients with a "negative" or "0" class may have detectable traces of specific IgE (0.10 to 0.35kU/L) that can have clinical significance as a marker of early sensitisation or previous significant sensitisation to insect venoms and drugs.

We differentiate the allergens we can test for as single allergens (a mixture of allergens molecules from one source, for example milk, coded f2); mixed allergens (a mixture of allergens from several sources, for example staple foods, coded fx5 which includes egg white, cow's milk, peanut, soy, wheat and codfish) and allergen components which are individual allergen molecules obtained by purification of the allergen molecule from a single source or by recombinant genetic technology, for example, the major milk components alpha-lactalbumin (coded f76), beta-lactoglobulin (coded f77) and casein (coded f78).

Mixed allergens are useful to screen economically for sensitisation to allergens in a mix; Single allergens are useful to confirm sensitisation to particular allergens while allergen component testing can provide additional diagnostic and prognostic information about a person's allergic sensitisation.

Multiple components may be tested more economically and efficiently by the ISAC system when more than a few component allergens are of clinical interest.

## ISAC Microarray Technology

In the most important practical advance in laboratory allergy diagnostics, the Phadia ImmunoCAP ISAC microarray system allows us to determine a patient's specific IgE to 112 clinically important allergen molecules from 51 different allergens.

Tests that define the molecule in a food to which a patient has significant specific IgE, can provide diagnostic and prognostic information for patients with serious food allergy. The ISAC profile is particularly useful for the assessment of highly sensitised patients, persons with birch tree pollen or other pollen cross-reactive oral allergy symptoms. The analytical sensitivity of the ISAC system for allergen-specific IgE detected by the ISAC profile is less than that of individual ImmunoCAPs and some lower level sensitisations may not be detected by the ISAC profile. Similarly some persons may be sensitised to minor allergens in plants or foods that are not represented and therefore not detected by the ISAC system.

## Allergen Specific IgE

### Specific IgE Levels Conferring Very High Risk of Anaphylaxis

ALLERGEN	kU/L	PPV
Egg (<= 2yo)	2	95%
Egg (> 2yo)	7	98%
Milk (<=2 yo)	5	95%
Milk (>2 yo)	15	95%
Peanut	14	100%
Fish	20	100%
Tree nuts	~15	~95%
Wheat	26	74%

Table 1

This table was derived from several large studies in which patients were challenged with the food. The positive predictive value (PPV) of a specific IgE level for a positive challenge was determined. It illustrates that specific IgE levels for individual allergens are like "international currencies" and are not necessarily comparable for a particular level for all the allergens. It defines levels at which a challenge, or exposure, would be highly hazardous for a patient. Importantly, many patients could have serious reactions at much lower levels. Different populations have different risks for concentrations of allergen-specific IgE.

## Total IgE & Specific IgE Index

The specific IgE index (percent of allergen specific IgE of total IgE) is another measure that can inform clinicians about potential severity and risk of a specific allergen sensitisation.

Total IgE measurements do provide a useful insight into an individual's allergic drive, particularly with severe eczema, managing immunosuppressive treatments for eczema, evolving allergic disease as well as assessment of allergobronchopulmonary aspergillosis. We measure total IgE levels on the ImmunoCAP 1000 system.

You will have noticed that some persons with significant allergy problems can have normal, moderately or strongly elevated IgE levels. Clinically significant specific IgE to allergens is uncommon when the total IgE is < 2 kU/L. A moderate amount of specific IgE to a particular allergen may have much greater significance for a relatively lower total IgE. A major emerging trend is to determine the Specific IgE Index (percentage of allergen specific IgE of total IgE). Limitations with this occur when only a few allergens are tested or the concentration of specific IgE to an allergen is > 100 kU/L (when an index cannot be calculated) but this does provide a useful context for assessing the likely significance of a specific allergic sensitisation in conjunction with clinical features and total IgE.

## Allergic Inflammation Mediators

### 1) Tryptase

Elevated levels of mast cell tryptase in peripheral blood indicate systemic mast cell degranulation or an increased number of mast cells which can occur in patients with mastocytosis.

Tryptase is NOT ELEVATED in persons with anaphylaxis from foods or non-parenteral agents.

Elevated levels indicate an adverse reaction to a stinging insect or a reaction to an intravenous, intramuscular or subcutaneous diagnostic or therapeutic agent. Any elevated tryptase levels should be repeated after a period of time (3-10 days) to document a return to normal levels.

Persistently elevated levels of tryptase are strongly suggestive of systemic mastocytosis which may not always manifest with urticaria pigmentosa. Since mastocytosis is more common in persons with stinging insect reactions, persons who have had systemic reactions to stinging insects should always have their tryptase level checked together with relevant venom specific IgE. The test is performed on serum. Normal values are < 13.5 ug/L.

For these indications, the test is Medicare rebatable.

### 2) Eosinophilic Cationic Protein (ECP)

ECP is elevated in persons with active eosinophilic inflammation. It is a useful marker in the diagnosis and management of hypereosinophilic disorders. ECP is also a useful marker of allergic airways inflammation in young children and in following some persons with eosinophilic oesophagitis.

The test is performed on serum. Normal values for children are < 20 ug/L and adults < 15 ug/L.

At present the test is only reimbursed by Medicare when requested in children under 12 years of age for assessment of airways inflammation (Please write "asthma" on clinical notes). For all other requests, the fee is \$50, non-rebatable.

## Non-Allergic Angioedema

### Type I & II (C1 Esterase Inhibitor) Hereditary Angioedema

This should be considered in anyone with a family history of angioedema without urticaria. C1 esterase level and function, C3 and C4 should be measured at the same time to facilitate interpretation of the results. Abnormal levels occur in persons with deficiency which has autosomal dominant inheritance. Persons with this disorder usually experience symptoms from puberty onwards and may have life-threatening episodes which are not responsive to adrenaline. Many patients also experience recurrent abdominal pain due to visceral angioedema. Functional deficiency may occur on a genetic basis or in older persons it can result from an interfering autoantibody associated with lymphoma. Abnormal functional assay results should always be repeated.

The C3, C4, quantitative and functional C1-esterase (C1-inhibitor) assays are performed on serum and reimbursed by Medicare. Sequencing for the detection of mutations causing Type I and II HAE is performed by the laboratory and the fee is \$418 (non-rebatable).

### Type III (Factor XII) Hereditary Angioedema

This should also be considered, mainly in women, who have angioedema without urticaria. Type III (Factor XII) Hereditary Angioedema is detected by a real-time PCR assay which detects the most common mutation in Factor XII. This is a cause of angioedema without urticaria in women. This is the only assay for this disorder which is thought to be at least as common as Type I and Type II HAE. At present there is a non-rebatable fee of \$132. The laboratory can also perform sequencing for other Factor XII mutations if required. The fee is \$418 (non-rebatable).

## Initial Investigation Panels

If you write "RAST" or "Allergy serology", but do not specify the allergens, we will perform the tests listed under A1 (for a child 6 years or less) or A2 (Adult, or child over 6 years). Any subsequently requested additional allergens are charged according to the billing policy listed in this brochure.

For panels A1 and A2 we will accept the Medicare rebate.

### A1: CHILD 6 years or less

#### Total IgE

<b>F2</b>	Cow's milk
<b>D1</b>	Dustmite
<b>F1</b>	Egg white
<b>F13</b>	Peanut
<b>F14</b>	Soy

### A2: ADULT, or CHILD over 6 years

#### Total IgE

<b>M6</b>	Alternaria
<b>E1</b>	Cat
<b>E5</b>	Dog
<b>D1</b>	Dustmite
<b>G4</b>	Grass pollen (Fescue)

## Other Common Initial Investigation Panels

Please write the name and code of the panel on the request form.

One (1) of these panels is within our allowance under Medicare

### A4 ANIMAL INHALANTS

<b>E1</b>	Cat
<b>E5</b>	Dog
<b>D1</b>	Dustmite
<b>G4</b>	Grass pollen

### A5 RURAL INHALANTS

<b>M6</b>	Alternaria
<b>G17</b>	Paspalum
<b>WX1</b>	Weed mix

### A6 PETS

<b>E1</b>	Cat
<b>E5</b>	Dog
<b>E6</b>	Guinea pig
<b>E82</b>	Rabbit

### A7 MOULDS

<b>M6</b>	Alternaria
<b>M3</b>	Aspergillus
<b>M5</b>	<i>Candida albicans</i>
<b>M2</b>	Cladosporium

## Other Common Initial Investigation Panels

Please write the name and code of the panel on the request form.

One (1) of these panels is within our allowance under Medicare

### A8 NATIVE TREES

<b>T19</b>	Acacia
<b>T73</b>	Australian Pine
<b>T18</b>	Eucalyptus
<b>T21</b>	Melaleuca

### A9 FOOD SCREEN

<b>F23</b>	Crab
<b>FX1</b>	Nut Mix
<b>F4</b>	Wheat

### A10 NUTS

<b>F20</b>	Almond
<b>F17</b>	Hazelnut
<b>F13</b>	Peanut
<b>F201</b>	Pecan nut

### A11 SEAFOOD

<b>F3</b>	Codfish
<b>F23</b>	Crab
<b>F24</b>	Prawn
<b>F80</b>	Lobster

### A12 CEREALS

<b>F6</b>	Barley
<b>F9</b>	Rice
<b>F14</b>	Soy
<b>F4</b>	Wheat

### A13 STAPLE FOODS

<b>F1</b>	Egg white
<b>F2</b>	Milk
<b>F13</b>	Peanut
<b>F14</b>	Soybean

### A14 INSECTS

<b>I1</b>	Honey bee venom
<b>I71</b>	Mosquito
<b>I4</b>	Paper wasp venom
<b>I3</b>	Yellow Jacket

### A15 LATEX & FOODS

<b>F92</b>	Banana
<b>F84</b>	Kiwi fruit
<b>K82</b>	Latex
<b>F87</b>	Melon

### A16 FOOD & INHALANTS

<b>M6</b>	Alternaria	<b>D1</b>	Dust Mite	<b>G4</b>	Grass Pollen (fescue)	<b>FX5</b>	Staple Foods
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## A3 Child Allergy Assessment Panel (Request "IgE And RAST A3")

This panel is designed for the assessment of children at high risk of allergic disease, especially those with eczema, possible food and inhalant allergies. The cost of this panel is \$160, for which a Medicare rebate of \$22.95 may be available.

### A3 CHILD

<b>M6</b>	<i>Alternaria alternata</i>	<b>D1</b>	Dustmite	<b>K82</b>	Latex	<b>F35</b>	Potato
<b>F92</b>	Banana	<b>F1</b>	Egg White	<b>M227</b>	Malassezia sp	<b>E82</b>	Rabbit Epithelium
<b>G2</b>	Bermuda Grass	<b>F75</b>	Egg Yolk	<b>F91</b>	Mango	<b>F10</b>	Sesame Seed
<b>F202</b>	Cashew	<b>G4</b>	Grass Pollen (fescue)	<b>F2</b>	Milk	<b>F14</b>	Soybean
<b>E1</b>	Cat Epithelium	<b>F17</b>	Hazelnut	<b>W21</b>	<i>Parietaria judaica</i>	<b>M80</b>	Staph. Enterotoxin A
<b>F3</b>	Codfish	<b>E3</b>	Horse Dander	<b>F13</b>	Peanut	<b>F4</b>	Wheat
<b>E5</b>	Dog	<b>F84</b>	Kiwi Fruit	<b>G5</b>	Perennial Rye Grass		

## Extended Allergen Panel Examples

Our charge for each of these panels is \$125, for which a rebate of \$22.95 may be available per episode. Each allergen may also be ordered separately by its code or name. **Other personalised extended panels are available on request. Please call Dr Karl Baumgart to discuss your requirements.**

### A20 INHALANTS

<b>T19</b>	Acacia
<b>M6</b>	<i>Alternaria alternata</i>
<b>M3</b>	<i>Aspergillus fumigatus</i>
<b>T73</b>	Australian Pine
<b>G2</b>	Bermuda Grass
<b>D201</b>	<i>Blomia tropicalis</i>
<b>E1</b>	Cat Epithelium
<b>M2</b>	<i>Cladosporium herbarum</i>
<b>W1</b>	Common Ragweed
<b>E5</b>	Dog
<b>D1</b>	Dustmite
<b>W9</b>	English Plantain
<b>T18</b>	Eucalyptus
<b>G4</b>	Grass pollen (fescue)
<b>E3</b>	Horse Dander
<b>W10</b>	Lamb's Quarters
<b>T21</b>	Melaleuca
<b>W21</b>	<i>Parietaria judaica</i>
<b>G5</b>	Perennial Rye Grass
<b>E82</b>	Rabbit Epithelium

### A21 MOULD & STORAGE MITES

<b>D70</b>	<i>Acarus siro</i>
<b>M6</b>	<i>Alternaria alternata</i>
<b>M3</b>	<i>Aspergillus fumigatus</i>
<b>D201</b>	<i>Blomia tropicalis</i>
<b>M5</b>	<i>Candida albicans</i>
<b>M2</b>	<i>Cladosporium herbarum</i>
<b>D1</b>	<i>D. pteronyssinus</i>
<b>M14</b>	<i>Epicoccum purpurascens</i>
<b>D74</b>	<i>Euroglyphus maynei</i>
<b>M9</b>	<i>Fusarium moniliforme</i>
<b>D73</b>	<i>Glycyphagus domesticus</i>
<b>M8</b>	<i>Helminthosporium</i>
<b>D71</b>	<i>Lepidoglyphus destructor</i>
<b>M227</b>	<i>Malassezia sp</i>
<b>M4</b>	<i>Mucor racemosus</i>
<b>M1</b>	<i>Penicillium notatum</i>
<b>M13</b>	<i>Phoma betae</i>
<b>M10</b>	<i>Stemphylium botryosum</i>
<b>M15</b>	<i>Trichoderma viride</i>
<b>D72</b>	<i>Tyrophagus putrescentiae</i>

### A22 FOODS

<b>F20</b>	Almond
<b>F92</b>	Banana
<b>F6</b>	Barley
<b>F27</b>	Beef
<b>F3</b>	Codfish
<b>F1</b>	Egg White
<b>F17</b>	Hazelnut
<b>F84</b>	Kiwi Fruit
<b>F91</b>	Mango
<b>F2</b>	Milk
<b>F33</b>	Orange
<b>F13</b>	Peanut
<b>F35</b>	Potato
<b>F9</b>	Rice
<b>F5</b>	Rye
<b>F10</b>	Sesame Seed
<b>F14</b>	Soybean
<b>F44</b>	Strawberry
<b>F4</b>	Wheat
<b>F45</b>	Yeast

### A23 ANAPHYLACTIC FOODS

<b>F20</b>	Almond
<b>F92</b>	Banana
<b>F27</b>	Beef
<b>F18</b>	Brazil Nut
<b>F36</b>	Coconut
<b>F3</b>	Codfish
<b>F23</b>	Crab
<b>F17</b>	Hazelnut
<b>F84</b>	Kiwi Fruit
<b>K82</b>	Latex
<b>F80</b>	Lobster
<b>F91</b>	Mango
<b>F290</b>	Oyster
<b>F13</b>	Peanut
<b>F201</b>	Pecan Nut
<b>F24</b>	Prawn
<b>F41</b>	Salmon
<b>F10</b>	Sesame Seed
<b>F40</b>	Tuna
<b>F256</b>	Walnut



### ANIMAL & AVIAN PROTEINS

Budgerigar droppings	<b>E77</b>
Budgerigar feathers	<b>E78</b>
Canary bird feathers	<b>E201</b>
Cat epithelium & dander	<b>E1</b>
Chicken droppings	<b>E218</b>
Chicken feathers	<b>E85</b>
Chicken serum proteins	<b>E219</b>
Cow dander	<b>E4</b>
Dog dander	<b>E5</b>
Duck feathers	<b>E86</b>
Finch feathers	<b>E214</b>
Goat epithelium	<b>E80</b>
Goose feathers	<b>E70</b>
Guinea pig epithelium	<b>E6</b>
Horse dander	<b>E3</b>
Mouse epithelium	<b>E71</b>
Mouse serum proteins	<b>E76</b>
Mouse urine proteins	<b>E72</b>
Parakeet droppings	<b>E197</b>
Parakeet feathers	<b>E196</b>
Parrot feathers	<b>E213</b>
Pigeon droppings	<b>E7</b>
Pigeon feathers	<b>E215</b>
Rabbit epithelium	<b>E82</b>
Rabbit serum proteins	<b>E206</b>
Rabbit urine proteins	<b>E211</b>
Rat epithelium	<b>E73</b>
Rat serum proteins	<b>E75</b>
Rat urine proteins	<b>E74</b>
Sheep epithelium	<b>E81</b>
Swine epithelium	<b>E83</b>
Swine serum albumin	<b>E222</b>
Turkey feathers	<b>E89</b>

### DRUGS

Amoxicilloyl	<b>C6</b>
Ampicilloyl	<b>C5</b>
Cefaclor	<b>C7</b>
Chlorhexidine	<b>C8</b>
Chymopapain	<b>C209</b>
Gelatin bovine	<b>C74</b>
Insulin human	<b>C73</b>
Morphine	<b>C260</b>
Penicilloyl G	<b>C1</b>
Penicilloyl V	<b>C2</b>
Pholcodine	<b>C261</b>
Suxamethonium (Succinylcholine)	<b>C202</b>
Tetanus toxoid	<b>C208</b>

### GRASS & GRAIN POLLENS

Bahia grass	<b>G17</b>
Barley Grain	<b>G201</b>
Bermuda grass	<b>G2</b>
Brome grass	<b>G11</b>
Cultivated oat	<b>G14</b>
Cultivated wheat	<b>G15</b>
Grass pollen (Fescue)	<b>G4</b>
Johnson grass	<b>G10</b>
Meadow grass	<b>G8</b>
Rye-grass	<b>G5</b>
Sweet vernal grass	<b>G1</b>
Timothy grass	<b>G6</b>
Velvet grass	<b>G13</b>

### INSECTS

Cockroach American	<b>I206</b>
Cockroach Oriental	<b>I207</b>
Horse fly	<b>I204</b>
Moth	<b>I8</b>
Berlin beetle	<b>I76</b>
Blood worm	<b>I73</b>
Cockroach ( <i>Blatella germanica</i> )	<b>I6</b>
Fire ant ( <i>Solenopsis invicta</i> )	<b>I70</b>
Grain weevil ( <i>Sitophilus granarius</i> )	<b>I202</b>
Green nimitti ( <i>Cladotanytarsus</i> )	<b>I72</b>
Mediterranean Flour Moth	<b>I203</b>
Mosquito spp ( <i>Aedes communis</i> )	<b>I71</b>

### MOULDS, YEASTS & TOXINS

<i>Alternaria alternata</i>	<b>M6</b>
<i>Aspergillus flavus</i>	<b>M228</b>
<i>Aspergillus fumigatus</i>	<b>M3</b>
<i>Aspergillus niger</i>	<b>M207</b>
<i>Aspergillus terreus</i>	<b>M36</b>
<i>Aureobasidium pullulans</i>	<b>M12</b>
<i>Botrytis cinerea</i>	<b>M7</b>
<i>Candida albicans</i>	<b>M5</b>
<i>Cephalosporium acremonium</i>	<b>M202</b>
<i>Chaetomium globosum</i>	<b>M208</b>
<i>Cladosporium herbarum</i>	<b>M2</b>
<i>Curvularia lunata</i>	<b>M16</b>
<i>Epicoccum purpurascens</i>	<b>M14</b>
<i>Fusarium moniliforme</i>	<b>M9</b>
<i>Helminthosporium halodes</i>	<b>M8</b>
<i>Malassezia spp.</i>	<b>M227</b>
<i>Mucor racemosus</i>	<b>M4</b>
<i>Penicillium glabrum</i>	<b>M209</b>
<i>Penicillium notatum</i>	<b>M1</b>
<i>Phoma betae</i>	<b>M13</b>
<i>Rhizopus nigricans</i>	<b>M11</b>
<i>Staphylococcus enterotoxin A</i>	<b>M80</b>
<i>Stemphylium botryosum</i>	<b>M10</b>
<i>Tilletia tritici</i>	<b>M201</b>
<i>Trichoderma viride</i>	<b>M15</b>
<i>Trichophyton ment. var. interdigitale</i>	<b>M211</b>
<i>Trichophyton rubrum</i>	<b>M205</b>
<i>Trichosporon pullulans</i>	<b>M203</b>
<i>Ulocladium chartarum</i>	<b>M204</b>

### MITES (HOUSE DUST & STORAGE)

<i>Acarus siro</i>	<b>D70</b>
<i>Blomia Tropicalis</i>	<b>D201</b>
<i>Dermatophagoides farinae</i>	<b>D2</b>
<i>Dermatophagoides microceras</i>	<b>D3</b>
<i>Dermatophagoides pteronyssinus</i>	<b>D1</b>
<i>Euroglyphus maynei</i>	<b>D74</b>
<i>Glycyphagus domesticus</i>	<b>D73</b>
House dust	<b>H2</b>
<i>Lepidoglyphus destructor</i>	<b>D71</b>
<i>Tyrophagus putrescentiae</i>	<b>D72</b>

# Single Allergens

Single Allergens \$5

Note: Requests for more than four of these will exceed our allowance under Medicare

## MISCELLANEOUS

Cotton crude fibres	<b>O1</b>
Seminal fluid	<b>O70</b>
Tetramin fish feed	<b>O203</b>
Tobacco leaf	<b>O201</b>

## OCCUPATIONALS

Castor bean	<b>K71</b>
Chloramin T	<b>K85</b>
Ethylene oxide	<b>K78</b>
Formaldehyde/Formalin	<b>K80</b>
Green coffee bean	<b>K70</b>
Isocyanate HDI	<b>K77</b>
Isocyanate MDI	<b>K76</b>
Isocyanate TDI	<b>K75</b>
Ispaghula	<b>K72</b>
Latex, <i>Hevea braziliensis</i>	<b>K82</b>
Silk	<b>K74</b>
Silk waste	<b>K73</b>
Sunflower seed	<b>K84</b>
Trimellitic Anhydride TMA	<b>K86</b>

## PARASITES

Anisakis	<b>P4</b>
Ascaris	<b>P1</b>

## TREE POLLENS

Acacia	<b>T19</b>
American beech	<b>T5</b>
Australian pine	<b>T73</b>
Birch	<b>T3</b>
Box-elder	<b>T1</b>
Chestnut	<b>T206</b>
Cottonwood	<b>T14</b>
Cypress	<b>T222</b>
Date	<b>T214</b>
Elm	<b>T8</b>
<i>Eucalyptus</i>	<b>T18</b>
Grey alder	<b>T2</b>
Italian cypress	<b>T23</b>
Japanese cedar	<b>T17</b>

## TREE POLLENS

<i>Melaleuca</i>	<b>T21</b>
Mountain juniper	<b>T6</b>
Oak	<b>T7</b>
Oil palm	<b>T223</b>
Olive	<b>T9</b>
Peppertree	<b>T217</b>
Pine	<b>T213</b>
Privet pollen	<b>T210</b>
Red Cedar	<b>T57</b>
Sweet gum	<b>T211</b>
Sycamore, London plane	<b>T11</b>
White ash	<b>T15</b>
White pine	<b>T16</b>
Willow	<b>T12</b>

## VENOMS

<i>Dolichovespula maculata</i> (White-faced hornet)	<b>I2</b>
Honey bee ( <i>Apis mellifera</i> )	<b>I1</b>
Paper wasp ( <i>Polistes</i> spp.)	<b>I4</b>
<i>Polistes dominulus</i> (European paper wasp)	<b>I77</b>
<i>Vespa crabro</i> (European Hornet)	<b>I75</b>
Yellow hornet ( <i>Dolichovespula arenaria</i> )	<b>I5</b>
Yellow jacket ( <i>Vespula</i> spp. Common wasp)	<b>I3</b>

## WEED AND CROP POLLENS

Canola (Rapeseed)	<b>W203</b>
Careless weed	<b>W82</b>
Common pigweed	<b>W14</b>
Common ragweed	<b>W1</b>
Dandelion	<b>W8</b>
English plantain	<b>W9</b>
False ragweed	<b>W4</b>
Goosefoot Lamb's quarters	<b>W10</b>
Lupin	<b>W207</b>
Mugwort	<b>W6</b>
Ox-eye daisy	<b>W7</b>
<i>Parietaria judaica</i>	<b>W21</b>
Rough marshelder	<b>W16</b>
Saltwort Russian thistle	<b>W11</b>
Sheep sorrel	<b>W18</b>
Sunflower	<b>W204</b>
Western ragweed	<b>W2</b>
Wormwood	<b>W5</b>



#### FRUIT & VEGETABLES

Apple	<b>F49</b>
Apricot	<b>F237</b>
Asparagus	<b>F261</b>
Aubergine (eggplant)	<b>F262</b>
Avocado	<b>F96</b>
Bamboo shoot	<b>F51</b>
Banana	<b>F92</b>
Beetroot	<b>F319</b>
Blackberry	<b>F211</b>
Blueberry	<b>F288</b>
Broccoli	<b>F260</b>
Brussel sprouts	<b>F217</b>
Cabbage	<b>F216</b>
Carrot	<b>F31</b>
Cauliflower	<b>F291</b>
Celery	<b>F85</b>
Cherry	<b>F242</b>
Cucumber	<b>F244</b>
Date	<b>F289</b>
Fennel fresh	<b>F276</b>
Fig	<b>F328</b>

#### FRUIT & VEGETABLES

Garlic	<b>F47</b>
Grape	<b>F259</b>
Grapefruit	<b>F209</b>
Guava	<b>F292</b>
Kiwi fruit	<b>F84</b>
Lemon	<b>F208</b>
Lettuce	<b>F215</b>
Lime	<b>F306</b>
Lychee	<b>F348</b>
Mandarin	<b>F302</b>
Mango fruit	<b>F91</b>
Olive (black fresh)	<b>F342</b>
Onion	<b>F48</b>
Orange	<b>F33</b>
Papaya	<b>F293</b>
Passionfruit	<b>F294</b>
Peach	<b>F95</b>
Pear	<b>F94</b>
Persimmon	<b>F301</b>
Pineapple	<b>F210</b>
Plum	<b>F255</b>
Potato	<b>F35</b>
Pumpkin	<b>F225</b>
Raspberry	<b>F343</b>
Red currant	<b>F322</b>
Rockmelons	<b>F87</b>
Rose hip	<b>F330</b>
Spinach	<b>F214</b>
Strawberry	<b>F44</b>
Sweet potato	<b>F54</b>
Tomato	<b>F25</b>
Watermelon	<b>F329</b>

#### MEAT

Chicken meat	<b>F83</b>
Beef	<b>F27</b>
Mutton	<b>F88</b>
Pork	<b>F26</b>
Rabbit meat	<b>F213</b>
Turkey meat	<b>F284</b>

#### POULTRY

Chicken meat	<b>F83</b>
Egg white	<b>F1</b>
Egg yolk	<b>F75</b>
Turkey meat	<b>F284</b>

#### SEED, LEGUMES & NUTS

Almond	<b>F20</b>
Barley	<b>F6</b>
Beans - green	<b>F315</b>
Beans - Lima	<b>F182</b>
Beans - Red kidney	<b>F287</b>
Beans - Soya	<b>F14</b>
Brazil nut	<b>F18</b>
Buckwheat	<b>F11</b>
Canola	<b>F316</b>
Cashew nut	<b>F202</b>
Chickpea	<b>F309</b>
Coconut	<b>F36</b>
Common millet	<b>F55</b>
Corn	<b>F8</b>
Fenugreek	<b>F305</b>
Gluten	<b>F79</b>
Hazel nut	<b>F17</b>
Japanese millet	<b>F57</b>
Lentil	<b>F235</b>
Linseed	<b>F333</b>
Lupin	<b>F335</b>
Macadamia nut	<b>F345</b>
Oat	<b>F7</b>
Pea	<b>F12</b>
Peanut	<b>F13</b>
Pecan nut	<b>F201</b>
Pine nut (pignoles)	<b>F253</b>
Pistachio	<b>F203</b>
Poppy seed	<b>F224</b>



# Single Food Allergens

Single Food Allergens \$5

Note: Requests for more than four of these will exceed our allowance under Medicare

## SEED, LEGUMES & NUTS

Pumpkin seed	<b>F226</b>
Quinoa	<b>F347</b>
Red Kidney Bean	<b>F287</b>
Rice	<b>F9</b>
Rye	<b>F5</b>
Sesame seed	<b>F10</b>
Spelt wheat	<b>F124</b>
Sweet Chestnut	<b>F299</b>
Walnut	<b>F256</b>
Wheat	<b>F4</b>
White bean	<b>F15</b>

## SPICES

Anise	<b>F271</b>
Basil	<b>F269</b>
Bay leaf	<b>F278</b>
Black pepper	<b>F280</b>
Caraway	<b>F265</b>
Cardamon	<b>F267</b>
Chili pepper	<b>F279</b>
Cinnamon	<b>F220</b>
Coriander	<b>F317</b>
Curry (Santa Maria)	<b>F281</b>
Fennel seed	<b>F219</b>
Ginger	<b>F270</b>
Green pepper (unripe seed)	<b>F263</b>
Mint	<b>F332</b>
Mustard	<b>F89</b>
Oregano	<b>F283</b>
Paprika sweet pepper	<b>F218</b>
Parsley	<b>F86</b>
Sage	<b>F344</b>
Thyme	<b>F273</b>
Vanilla	<b>F234</b>

## FISH & SHELLFISH

Abalone	<b>F346</b>
Anchovy	<b>F313</b>
Blue mussel	<b>F37</b>
Catfish	<b>F369</b>
Clam	<b>F207</b>
Crab	<b>F23</b>
Crayfish	<b>F320</b>
Eel	<b>F264</b>
Codfish	<b>F3</b>
Grouper	<b>F410</b>
Haddock	<b>F42</b>
Hake	<b>F307</b>
Halibut	<b>F303</b>
Herring	<b>F205</b>
Jack mackerel (Scad)	<b>F60</b>
Lobster	<b>F80</b>
Mackerel	<b>F206</b>
Octopus	<b>F59</b>
Oyster	<b>F290</b>
Red Snapper	<b>F381</b>
Salmon	<b>F41</b>
Sardine (Japanese) Pilchard	<b>F61</b>
Scallop	<b>F338</b>
Shrimp	<b>F24</b>
Snail	<b>F314</b>
Sole	<b>F337</b>
Squid	<b>F258</b>
Swordfish	<b>F312</b>
Trout	<b>F204</b>
Tuna	<b>F40</b>
Whitefish	<b>F384</b>

## MILK

Alpha lactalbumin	<b>F76</b>
Beta lactoglobulin	<b>F77</b>
Casein	<b>F78</b>
Cheese Cheddar-type	<b>F81</b>
Cheese Mould-type	<b>F82</b>
Cow's whey	<b>F236</b>
Goat milk	<b>F300</b>
Milk	<b>F2</b>
Sheep milk	<b>F325</b>
Sheep whey	<b>F326</b>

## MISCELLANEOUS

Cacao	<b>F93</b>
Carob (E410)	<b>F296</b>
Cochineal (Carmine red, E120)	<b>F340</b>
Coffee	<b>F221</b>
Guar, guar gum (E412)	<b>F246</b>
Gum arabic (E414)	<b>F297</b>
Honey	<b>F247</b>
Hop (fruit cone)	<b>F324</b>
Malt	<b>F90</b>
Mushroom (champignon)	<b>F212</b>
Tea	<b>F222</b>
Tragacanth (E413)	<b>F298</b>
Yeast ( <i>S. cerevisiae</i> )	<b>F45</b>



### HOUSE DUST

**Dust & Mite Mix** Dust and mite mix **HX2** (H2 D1 D2 I6)

### ANIMAL DANDER MIXES

<b>Animal Mix 1</b>	Cat dander, Horse dander, Cow dander, Dog dander	<b>EX1</b>	(E1 E3 E4 E5)
<b>Animal Mix 2</b>	Cat dander, Dog dander, Guinea pig epithelium, Rat, Mouse	<b>EX2</b>	(E1 E5 E6 E87 E88)
<b>Animal Mix 3</b>	Guinea pig epithelium, Rabbit epithelium, Hamster epithelium, Rat, Mouse	<b>EX70</b>	(E6 E82 E84 E87 E88)
<b>Bird Mix</b>	Budgerigar feathers, Canary bird feathers, Parakeet feathers, Parrot feathers, Finch feathers	<b>EX72</b>	(E78 E201 E196 E213 E214)
<b>Feather Mix</b>	Goose feathers, Chicken feathers, Duck feathers, Turkey feathers	<b>EX71</b>	(E70 E85 E86 E89)

### GRASS POLLEN MIXES

<b>Grass Mix 1</b>	Cocksfoot, Meadow Fescue, Rye grass, Timothy grass, Meadow grass	<b>GX1</b>	(G3 G4 G5 G6 G8)
<b>Grass Mix 2</b>	Bermuda grass, Rye grass, Timothy grass, Meadow grass, Johnson grass, Bahia grass	<b>GX2</b>	(G2 G5 G6 G8 G10 G17)
<b>Grass Mix 4</b>	Sweet Vernal grass, Rye grass, Common Reed, Cultivated Rye, Velvet grass	<b>GX4</b>	(G1 G5 G7 G12 G13)

### TREE POLLEN MIXES

<b>Tree Mix 1</b>	Box elder, Birch, Oak, Elm, Walnut	<b>TX1</b>	(T1 T3 T7 T8 T10)
<b>Tree Mix 2</b>	Box elder, Oak, Elm, Cottonwood, Pecan Hickory	<b>TX2</b>	(T1 T7 T8 T14 T22)
<b>Tree Mix 3</b>	Mountain Juniper, Oak, Elm, Cottonwood, Mesquite	<b>TX3</b>	(T6 T7 T8 T14 T20)
<b>Tree Mix 4</b>	Oak, Elm, Sycamore, Willow, Cottonwood	<b>TX4</b>	(T7 T8 T11 T12 T14)
<b>Tree Mix 5</b>	Grey Alder, Hazel, Elm, Willow, Cottonwood	<b>TX5</b>	(T2 T4 T8 T12 T14)
<b>Tree Mix 6</b>	Box elder, Birch, American Beech, Oak, Walnut	<b>TX6</b>	(T1 T3 T5 T7 T10)
<b>Tree Mix 7</b>	Olive, Willow, White Pine, Eucalyptus, Acacia, Melaleuca	<b>TX7</b>	(T9 T12 T16 T18 T19 T21)
<b>Tree Mix 8</b>	Box elder, Birch, Hazel, Oak, Sycamore	<b>TX8</b>	(T1 T3 T4 T7 T11)
<b>Tree Mix 9</b>	Grey Alder, Birch, Hazel, Oak, Willow	<b>TX9</b>	(T2 T3 T4 T7 T12)
<b>Tree Mix 10</b>	Grey Alder, Birch, White Ash	<b>TX10</b>	(T2 T3 T4 T15)

### WEED POLLEN MIXES

<b>Weed &amp; Flower Mix</b>	Common ragweed, Mugwort, Ox-eye Daisy, Dandelion, Golden rod	<b>WX5</b>	(W1 W6 W7 W8 W12)
<b>Weed Mix 1</b>	Common ragweed, Mugwort, English Plantain, Goosefoot Lamb's Quarters, Sattitwort	<b>WX1</b>	(W1 W6 W9 W10 W11)
<b>Weed Mix 2</b>	Western ragweed, Mugwort, English Plantain, Goosefoot Lamb's Quarters, Scale Lenscale	<b>WX2</b>	(W2 W6 W9 W10 W15)

# Mixed Allergens

Mixed Allergens \$10

Note: Requests for more than two of these will exceed our allowance under Medicare

## MOULD MIXES

<b>Mould Mix 2</b>	<i>Penicillium chrysogenum, Cladosporium herbarum, Aspergillus fumigatus, Candida albicans, Alternaria alternata, Setomelanomma rostrata</i>	<b>MX2</b>	(M1 M2 M3 M5 M6 M8)
<b>Mould Mix 4</b>	<i>A. fumigatus, A. niger, A. terreus, A. flavus</i>	<b>MX4</b>	(M3 M207 M36 M228)

## COMBINATION INHALANT MIXES

<b>Inhalant 3</b>	Bermuda grass, Rye grass, Bahia grass, Common Ragweed, English Plantain, Goosefoot Lamb's Quarters	<b>RX3</b>	(G2 G5 G17 W1 W9 W10)
<b>Inhalant 4</b>	Sweet Vernal grass, Bermuda grass, Rye grass, Common Ragweed, Mugwort, English Plantain,	<b>RX4</b>	(G2 G5 G1 W1 W6 W9)

## OCCUPATIONAL MIXES

<b>Chemicals 1</b>	Isocyanates (TDI, MDI, HDI), Phthalic anhydride	<b>PAX5</b>	(K75 K76 K77 K79)
<b>Chemicals 2</b>	Ethylene oxide, Phthalic anhydride, Formaldehyde, Chloramin T	<b>PAX6</b>	(K78 K79 K80 K85)
<b>Occupational 4</b>	Wheat & Soy flour, alpha-amylase, <i>Sitophilus granarius</i>	<b>PAX4</b>	(F4 F14 K87 I202)

## FOOD MIXES

<b>Cereal Mix</b>	Wheat, Oat, Maize, Sesame seed, Buckwheat	<b>FX3</b>	(F4 F7 F8 F10 F11)
<b>Fruit Mix</b>	Orange, Apple, Banana, Peach	<b>FX15</b>	(F33 F49 F92 F95)
<b>Meat Mix</b>	Pork, Beef, Chicken	<b>FX73</b>	(F26 F27 F83)
<b>Nut Mix</b>	Peanut, Hazel nut, Brazil nut, Almond, Coconut	<b>FX1</b>	(F13 F17 F18 F20 F36)
<b>Seafood Mix</b>	Fish, Shrimp, Blue mussel, Tuna, Salmon	<b>FX2</b>	(F3 F24 F37 F40 F41)
<b>Spice Mix 1</b>	Tarragon, Marjoram, Thyme, Lovage	<b>FX70</b>	(F272 F274 F273 F275)
<b>Spice Mix 2</b>	Caraway, Mace, Cardamom, Clove	<b>FX71</b>	(F265 RF266 F267 F268)
<b>Spice Mix 3</b>	Basil, Fennel seed, Ginger, Anise	<b>FX72</b>	(F269 F219 F270 F271)
<b>Staple Food Mix</b>	Egg white, Milk, Fish, Wheat, Peanut, Soybean	<b>FX5</b>	(F1 F2 F3 F4 F13 F14)
<b>Vegetable Mix</b>	Carrot, Potato, Spinach, Cucumber	<b>FX19</b>	(F31 F35 F214 F244)
<b>Food Mix 7</b>	Tomato, Yeast, Garlic, Onion, Celery	<b>FX7</b>	(F25 F45 F47 F48 F85)
<b>Food Mix 20</b>	Wheat, Rye, Barley, Rice	<b>FX20</b>	(F4 F5 F6 F9)
<b>Food Mix 26</b>	Egg white, Cow's milk, Peanut, Mustard	<b>FX26</b>	(F1 F2 F13 F89)
<b>Food Mix 74</b>	Cod, Herring, Mackerel, Plaice	<b>FX74</b>	(F3 F205 F206 F254)

# Allergen Components

Allergen Components \$40

## ANIMALS

rCan f1 (recombinant dog)	<b>E101</b>
rCan f2 (recombinant dog)	<b>E102</b>
rFel d1 (recombinant cat)	<b>E94</b>
nBos d 6 BSA, Cow Bos spp.	<b>E204</b>
nCan f 3 Dog serum albumin <i>Canis familiaris</i>	<b>E221</b>
nFel d 2 Cat serum albumin <i>Felis domesticus</i>	<b>E220</b>

## FOODS

nBos d 4 a-lactalbumin, Milk Bos spp.	<b>F76</b>
nBos d 5 b-lactoglobulin, Milk Bos spp.	<b>F77</b>
nBos d 8 Casein, Milk Bos spp.	<b>F78</b>
nBos d Lactoferrin, Milk Bos spp.	<b>F334</b>
nGal d 1 Ovomucoid, Egg Gallus spp.	<b>F233</b>
nGal d 2 Ovalbumin, Egg Gallus spp.	<b>F232</b>
nGal d 3 Conalbumin, Egg Gallus spp.	<b>F323</b>
rAra h 1 Peanut <i>Arachis hypogaea</i>	<b>F422</b>
rAra h 2 Peanut <i>Arachis hypogaea</i>	<b>F423</b>
rAra h 3 Peanut <i>Arachis hypogaea</i>	<b>F424</b>
rAra h 8 PR-10, Peanut <i>Arachis hypogaea</i>	<b>F352</b>
rAra h 9 LTP, Peanut <i>Arachis hypogaea</i>	<b>F427</b>
rCor a 1 PR-10, Hazel nut <i>Corylus avellana</i>	<b>F428</b>
rCor a 8 LTP, Hazel nut <i>Corylus avellana</i>	<b>F425</b>
rGad c 1 Cod <i>Gadus morhua</i>	<b>F426</b>
rPen a 1 Tropomyosin, Shrimp <i>Penaeus aztecus</i>	<b>F351</b>
rPru p 1 PR-10, Peach <i>Prunus persica</i>	<b>F419</b>
rPru p 3 LTP, Peach <i>Prunus persica</i>	<b>F420</b>
rPru p 4 Profilin, Peach <i>Prunus persica</i>	<b>F421</b>
rTri a 19 Omega-5 Gliadin, Wheat <i>Triticum</i> spp	<b>F416</b>

**Note:** These allergens are priced as core individual allergens ( \$5 ea)

## VENOM

rApi m 1 Phospholipase A2, Honey Bee	<b>I208</b>
rVes v 1 Phospholipase A1, Common Wasp	<b>I211</b>
rVes v 5 Common Wasp	<b>I209</b>
rPol d 5 European Paper Wasp	<b>I210</b>

## TREES

rBet v 1 PR-10, Birch <i>Betula verrucosa</i>	<b>T215</b>
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## MOULDS

rAlt a 1 (component alternaria)	<b>M229</b>
rAsp f 3 (recombinant aspergillus)	<b>M220</b>
rAsp f1 (recombinant aspergillus)	<b>M218</b>
rAsp f2 (recombinant aspergillus)	<b>M219</b>
rAsp f4 (recombinant aspergillus)	<b>M221</b>
rAsp f6 (recombinant aspergillus)	<b>M222</b>

## LATEX

rHev b 1 Latex <i>Hevea brasiliensis</i>	<b>K215</b>
rHev b 3 Latex <i>Hevea brasiliensis</i>	<b>K217</b>
rHev b 5 Latex <i>Hevea brasiliensis</i>	<b>K218</b>
rHev b 6.01 Latex <i>Hevea brasiliensis</i>	<b>K219</b>
rHev b 6.02 Latex <i>Hevea brasiliensis</i>	<b>K220</b>
rHev b 8 Profilin, Latex <i>Hevea brasiliensis</i>	<b>K221</b>
rHev b 9 Latex <i>Hevea brasiliensis</i>	<b>K222</b>

## OCCUPATIONAL ALLERGENS

nCar p 1 Papain, <i>Papaya Carica</i>	<b>K201</b>
nAsp o 1 a-amylase <i>Aspergillus oryzae</i>	<b>K87</b>

## OTHERS (to exclude CCD reactivity)

nAna c 2 Bromelin, Pineapple <i>Ananas comosus</i>	<b>K202</b>
nO214 MUXF3 CCD, Bromelin	<b>O214</b>

## MISCELLANEOUS

Alpha-gal (Gal-alpha-1,3-Gal Thyroglobulin, bovine)	<b>U953</b>
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# ImmunoCAP ISAC® Allergen Component Microarray

**\$350 for panel of 112 allergen components from 51 allergens**

Note: Only some of these components are available as individual allergen component immunoassays

ALLERGEN COMPONENT	ALLERGEN SOURCE COMMON NAME	LATIN NAME	PROTEIN GROUP
<b>FOOD ALLERGENS</b>			
nGal d 1	Egg white	<i>Gallus domesticus</i>	Ovomucoid
nGal d 2	Egg white	<i>Gallus domesticus</i>	Ovalbumin
nGal d 3	Egg white	<i>Gallus domesticus</i>	Conalbumin/Ovotransferrin
nGal d 5	Egg yolk/chicken meat	<i>Gallus domesticus</i>	Livetin/Serum albumin
nBos d 4	Cow's milk	<i>Bos domesticus</i>	Alpha-lactalbumin
nBos d 5	Cow's milk	<i>Bos domesticus</i>	Beta-lactoglobulin
nBos d 6	Cow's milk and meat	<i>Bos domesticus</i>	Serum albumin
nBos d 8	Cow's milk	<i>Bos domesticus</i>	Casein
nBos d lactoferrin	Cow's milk	<i>Bos domesticus</i>	Transferrin
rGad c 1	Cod	<i>Gadus callarias</i>	Parvalbumin
nPen m 1	Shrimp	<i>Penaeus monodon</i>	Tropomyosin
nPen m 2	Shrimp	<i>Penaeus monodon</i>	Arginine kinase
nPen m 4	Shrimp	<i>Penaeus monodon</i>	Sarcoplasmic Ca-binding protein
rAna o 2	Cashew nut	<i>Anacardium occidentale</i>	Storage protein, 11S globulin
rBer e 1	Brazil nut	<i>Bertholletia excelsa</i>	Storage protein, 2S albumin
rCor a 1.0401	Hazelnut	<i>Corylus avellana</i>	PR-10 protein
rCor a 8	Hazelnut	<i>Corylus avellana</i>	Lipid transfer protein (nsLTP)
nCor a 9	Hazelnut	<i>Corylus avellana</i>	Storage protein, 11S globulin
nJug r 1	Walnut	<i>Juglans regia</i>	Storage protein, 2S albumin
nJug r 2	Walnut	<i>Juglans regia</i>	Storage protein, 7S globulin
nJug r 3	Walnut	<i>Juglans regia</i>	Lipid transfer protein (nsLTP)
nSes i 1	Sesame seed	<i>Sesamum indicum</i>	Storage protein, 2S albumin
rAra h 1	Peanut	<i>Arachis hypogaea</i>	Storage protein, 7S globulin
rAra h 2	Peanut	<i>Arachis hypogaea</i>	Storage protein, Conglutin
rAra h 3	Peanut	<i>Arachis hypogaea</i>	Storage protein, 11S globulin
nAra h 6	Peanut	<i>Arachis hypogaea</i>	Storage protein, Conglutin
rAra h 8	Peanut	<i>Arachis hypogaea</i>	PR-10 protein
rAra h 9	Peanut	<i>Arachis hypogaea</i>	Lipid transfer protein (nsLTP)
rGly m 4	Soybean	<i>Glycine max</i>	PR-10 protein
nGly m 5	Soybean	<i>Glycine max</i>	Storage protein, Beta-conglycinin
nGly m 6	Soybean	<i>Glycine max</i>	Storage protein, Glycinin
nFag e 2	Buckwheat	<i>Fagopyrum esculentum</i>	Storage protein, 2S albumin
rTri a 14	Wheat	<i>Triticum aestivum</i>	Lipid transfer protein (nsLTP)
rTri a 19.0101	Wheat	<i>Triticum aestivum</i>	Omega-5 gliadin
nTri a aA_TI	Wheat	<i>Triticum aestivum</i>	
nAct d 1	Kiwi	<i>Actinidia deliciosa</i>	
nAct d 2	Kiwi	<i>Actinidia deliciosa</i>	Thaumatine-like protein
nAct d 5	Kiwi	<i>Actinidia deliciosa</i>	
rAct d 8	Kiwi	<i>Actinidia deliciosa</i>	PR-10 protein
rApi g 1	Celery	<i>Apium graveolens</i>	PR-10 protein
rMal d 1	Apple	<i>Malus domestica</i>	PR-10 protein
rPru p 1	Peach	<i>Prunus persica</i>	PR-10 protein
rPru p 3	Peach	<i>Prunus persica</i>	Lipid transfer protein (nsLTP)
<b>AEROALLERGENS</b>			
nCyn d 1	Bermuda grass	<i>Cynodon dactylon</i>	Grass group 1
rPhl p 1	Timothy grass	<i>Phleum pratense</i>	Grass group 1
rPhl p 2	Timothy grass	<i>Phleum pratense</i>	Grass group 2
nPhl p 4	Timothy grass	<i>Phleum pratense</i>	
rPhl p 5	Timothy grass	<i>Phleum pratense</i>	Grass group 5
rPhl p 6	Timothy grass	<i>Phleum pratense</i>	
rPhl p 7	Timothy grass	<i>Phleum pratense</i>	Polcalcin
rPhl p 11	Timothy grass	<i>Phleum pratense</i>	
rPhl p 12	Timothy grass	<i>Phleum pratense</i>	Profilin
rAln g 1	Alder	<i>Alnus glutinosa</i>	PR-10 protein
rBet v 1	Birch	<i>Betula verrucosa</i>	PR-10 protein
rBet v 2	Birch	<i>Betula verrucosa</i>	Profilin
rBet v 4	Birch	<i>Betula verrucosa</i>	Polcalcin

# ImmunoCAP ISAC® Allergen Component Microarray

**\$350 for panel of 112 allergen components from 51 allergens**

Note: Only some of these components are available as individual allergen component immunoassays

ALLERGEN COMPONENT	ALLERGEN SOURCE COMMON NAME	LATIN NAME	PROTEIN GROUP
<b>AEROALLERGENS</b>			
rCor a 1.0101	Hazel pollen	<i>Corylus avellana</i>	PR-10 protein
nCry j 1	Japanese cedar	<i>Cryptomeria japonica</i>	
nCup a 1	Cypress	<i>Cupressus arizonica</i>	
nOle e 1	Olive	<i>Olea europaea</i>	
nOle e 7	Olive	<i>Olea europaea</i>	Lipid transfer protein (nsLTP)
rOle e 9	Olive	<i>Olea europaea</i>	
rPla a 1	Plane tree	<i>Platanus acerifolia</i>	
nPla a 2	Plane tree	<i>Platanus acerifolia</i>	
rPla a 3	Plane tree	<i>Platanus acerifolia</i>	Lipid transfer protein (nsLTP)
nAmb a 1	Ragweed	<i>Ambrosia artemisiifolia</i>	
nArt v 1	Mugwort	<i>Artemisia vulgaris</i>	
nArt v 3	Mugwort	<i>Artemisia vulgaris</i>	Lipid transfer protein (nsLTP)
rChe a 1	Goosefoot	<i>Chenopodium album</i>	
rMer a 1	Annual mercury	<i>Mercurialis annua</i>	Profilin
rPar j 2	Wall pellitory	<i>Parietaria judaica</i>	Lipid transfer protein (nsLTP)
rPla l 1	Plantain (English)	<i>Plantago lanceolata</i>	
nSal k 1	Saltwort	<i>Salsola kali</i>	
rCan f 1	Dog	<i>Canis familiaris</i>	Lipocalin
rCan f 2	Dog	<i>Canis familiaris</i>	Lipocalin
nCan f 3	Dog	<i>Canis familiaris</i>	Serum albumin
rCan f 5	Dog	<i>Canis familiaris</i>	Arginine esterase
rEqu c 1	Horse	<i>Equus caballus</i>	Lipocalin
nEqu c 3	Horse	<i>Equus caballus</i>	Serum albumin
rFel d 1	Cat	<i>Felis domesticus</i>	Uteroglobulin
nFel d 2	Cat	<i>Felis domesticus</i>	Serum albumin
rFel d 4	Cat	<i>Felis domesticus</i>	Lipocalin
nMus m 1	Mouse	<i>Mus musculus</i>	Lipocalin
rAlt a 1	Alternaria	<i>Alternaria alternata</i>	
rAlt a 6	Alternaria	<i>Alternaria alternata</i>	Enolase
rAsp f 1	Aspergillus	<i>Aspergillus fumigatus</i>	
rAsp f 3	Aspergillus	<i>Aspergillus fumigatus</i>	
rAsp f 6	Aspergillus	<i>Aspergillus fumigatus</i>	Mn superoxide dismutase
rCla h 8	Cladosporium	<i>Cladosporium herbarum</i>	
rBlo t 5	House dust mite	<i>Blomia tropicalis</i>	
nDer f 1	House dust mite	<i>Dermatophagoides farinae</i>	
rDer f 2	House dust mite	<i>Dermatophagoides farinae</i>	
nDer p 1	House dust mite	<i>Dermatophagoides pteronyssinus</i>	
rDer p 2	House dust mite	<i>Dermatophagoides pteronyssinus</i>	
rDer p 10	House dust mite	<i>Dermatophagoides pteronyssinus</i>	Tropomyosin
rLep d 2	Storage mite	<i>Lepidoglyphus destructor</i>	
rBla g 1	Cockroach	<i>Blattella germanica</i>	
rBla g 2	Cockroach	<i>Blattella germanica</i>	
rBla g 5	Cockroach	<i>Blattella germanica</i>	
nBla g 7	Cockroach	<i>Blattella germanica</i>	Tropomyosin
<b>OTHER</b>			
rApi m 1	Honey bee venom	<i>Apis mellifera</i>	Phospholipase A2
nApi m 4	Honey bee venom	<i>Apis mellifera</i>	Melittin
rPol d 5	Paper wasp venom	<i>Polistes dominulus</i>	Venom, Antigen 5
rVes v 5	Common wasp venom	<i>Vespula vulgaris</i>	Venom, Antigen 5
rAni s 1	Anisakis	<i>Anisakis simplex</i>	
rAni s 3	Anisakis	<i>Anisakis simplex</i>	Tropomyosin
rHev b 1	Latex	<i>Hevea brasiliensis</i>	
rHev b 3	Latex	<i>Hevea brasiliensis</i>	
rHev b 5	Latex	<i>Hevea brasiliensis</i>	
rHev b 6.01	Latex	<i>Hevea brasiliensis</i>	
rHev b 8	Latex	<i>Hevea brasiliensis</i>	Tropomyosin
nMUXF3	Sugar epitope from Bromelain		Tropomyosin

## Ordering Allergy Tests

We ask that you specifically nominate which allergens you would like tested. Please do not write the allergens to be tested in the clinical notes section of the request form. A comprehensive menu of allergens that we stock and test for is available in this brochure. If allergens are not available we may use cross-reactive ones or advise you on the report. Some "allergy symptoms" may result from intolerance mechanisms (salicylates, amines, MSG, metabisulphite) and detection of IgE to them is not useful or possible. You can request the allergens using their alphanumeric codes. To assist staff performing data entry, we appreciate it if you precede these codes by "Specific IgE for" or "Allergy serology for" or "RAST for".

If you simply write "RAST" we will now test as follows:

**Child 6 years or less:** dust mite, egg white, cow's milk, peanut and soy (Panel A1)

**Adult or child over 6 years:** dust mite, cat, dog, grass pollen and alternaria (Panel A2)

If you write "food and inhalant allergens", we will test a staple food mix (Fx5, that includes egg white, cow's milk, peanut, soy, wheat and codfish), dust mite, fescue grass pollen-which cross-reacts with almost all other grasses and, alternaria-an outdoor mould with small spores that can easily be inhaled into the small airways (Panel A16). We do recommend some extended panels of individual allergens and can specifically design panels for you and your patients.

## Billing Policy For Allergy Testing

Clinpath Laboratories is committed to offering the best available allergy testing systems.

Our policy is to respect your request for the allergens and decode them according to our best practice.

If your test request exceeds our allowance under Medicare, we will still test for the allergens, but will need to bill your patient according to our price menu for any additional tests.

Additional tests will incur an allergen test fee, plus the costs of the extra allergens ordered.

In our Allergy menu we now list a price for each allergen reagent and this is organised into different allergen classes:

Additional allergen test fee	\$25
Single allergens	\$5
Mixed allergens	\$10
Allergen components	\$40
ISAC profile	\$350

Due to Medicare restrictions Clinpath Laboratories can only accept bulk-billed requests for:

- four single allergens *or*
- two mixes *or*
- one mix and two single allergens

Any additional tests will be billed to the patient.

**The patient will receive an invoice of \$25 *plus* \$5 per single allergen, \$10 per mixed allergen and \$40 per allergen component.**

These additional tests are not Medicare rebatable.

**For any billing enquiries please contact (08) 8366 2066.**

For specialist advice please contact the Sonic Consultant Immunopathologist  
Dr Karl Baumgart on 02 9855 5286, or email to [kbaumgart@dhm.com.au](mailto:kbaumgart@dhm.com.au)  
For general enquiries please call Dr Nicholas Wickham on 0417 875 472  
or email to [nwickham@clinpath.com.au](mailto:nwickham@clinpath.com.au)

## Contact Details

General Enquiries	8366 2000
Result Enquiries	8366 2022
Patient Bookings	8366 2088

[www.clinpath.com.au](http://www.clinpath.com.au)

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