



MELBOURNE  
PATHOLOGY

Quality is in our DNA

# Laboratory Tests for Allergy



## Allergen Specific IgE - RAST Testing

## Billing Policy

### Our fees for different allergen types

Single	\$5
Mixed	\$10
Allergen Components	\$40

### Billing policy for allergy testing

Our policy is to respect your request for the allergens and decode them according to our best practice. Even if you have requested more allergens than our allowance under Medicare, we will bill your patient according to the pricing using the key above. If you have nominated the patient to be bulk-billed or if the patient has signed a Medicare assignment form, this billing policy will still apply for all tests above our allowance under Medicare.

You will see in our Allergen Menu that we now list a price for each allergen reagent and that this is organised into different allergen classes: single allergens are \$5, mixed allergens are \$10. Our highly specialised allergen components are \$40.

If the price of the allergens requested is more than the Medicare rebate of \$22.80, the laboratory will not accept bulk-billing for the request and the patient will be billed according to the price on the menu with our additional allergen test fee of \$25 and may claim a rebate of \$22.80, subject to coning.

For example if you request:

Three single allergens @ \$5	\$15
Two mixed allergens @ \$10	\$20
One allergen component @ \$40	\$40

Your patient will receive an invoice for \$100 (which includes our allergen test fee of \$25).

Practically, this means we will not accept a bulk-billed request for more than four single allergens, two mixed allergens, or allergen components.

**Please note that eligible patients may be able to claim a rebate on four occasions per year for testing performed on four separate blood collections, with each episode at least 14 days apart.**

### 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 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 would appreciate if you precede these codes by "Specific IgE for" or "Allergy serology for" or "RAST for".

### 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 outlined above. For panels A1, A2 or A3 we will accept the Medicare rebate.

A1: CHILD 6 years or less	
Total IgE	
F2	Cow's milk
D1	D. Pteronyssinus (Dustmite)
F1	Egg white
F13	Peanut
F14	Soy

A2: ADULT, or CHILD over 6 years	
Total IgE	
M6	Alternaria
E1	Cat
E5	Dog
D1	D. Pteronyssinus (Dustmite)
G5	Grass Pollen (Perennial Rye grass)

A3: FOOD & INHALANTS			
FX5	Staple Foods (egg white, cow's milk, peanut, soy, wheat, and codfish)	G5	Grass Pollen (Perennial Rye grass)
		D1	D. Pteronyssinus (Dustmite)
		M6	Alternaria



## Background and Testing Strategies

- Testing for IgE to specific allergens ("RAST" testing) is an important step in the diagnosis of allergy
- This information provides a summary of how this testing can be best utilised and outlines the cost of testing
- Due to Medicare funding constraints, the laboratory is unable to accept bulk billing requests for more than very basic allergy testing requests

### Background

Immediate (Type I) hypersensitivity refers to a specific type of immune response in which Immunoglobulin E (IgE) plays a central role. Clinical manifestations of immediate hypersensitivity most commonly involve the skin (urticaria), eyes (conjunctivitis), respiratory tract (rhinitis and asthma) and cardiovascular system (hypotension).

IgE is produced after first exposure to an allergen (an environmental molecule that induces an allergic response). This IgE subsequently binds to mast cells in tissues, such as those mentioned above. Subsequent exposure to allergen causes activation of the mast cells, to which the allergen-specific IgE is bound, causing release of chemicals that cause the clinical manifestations of allergy (see Figure 1 below).

"RAST" tests, which due to new laboratory techniques, are more accurately referred to as specific IgE (or) sIgE tests, detect the presence of specific IgE in the serum and were introduced into clinical practice in the early 1980's. Techniques for detection of allergen-specific IgE have improved significantly since this time.

Melbourne Pathology has introduced a new platform on which sIgE testing is performed – the Phadia ImmunoCap 250. As the majority of published studies in allergy use this testing method, it is widely considered the benchmark for quantifying sIgE.

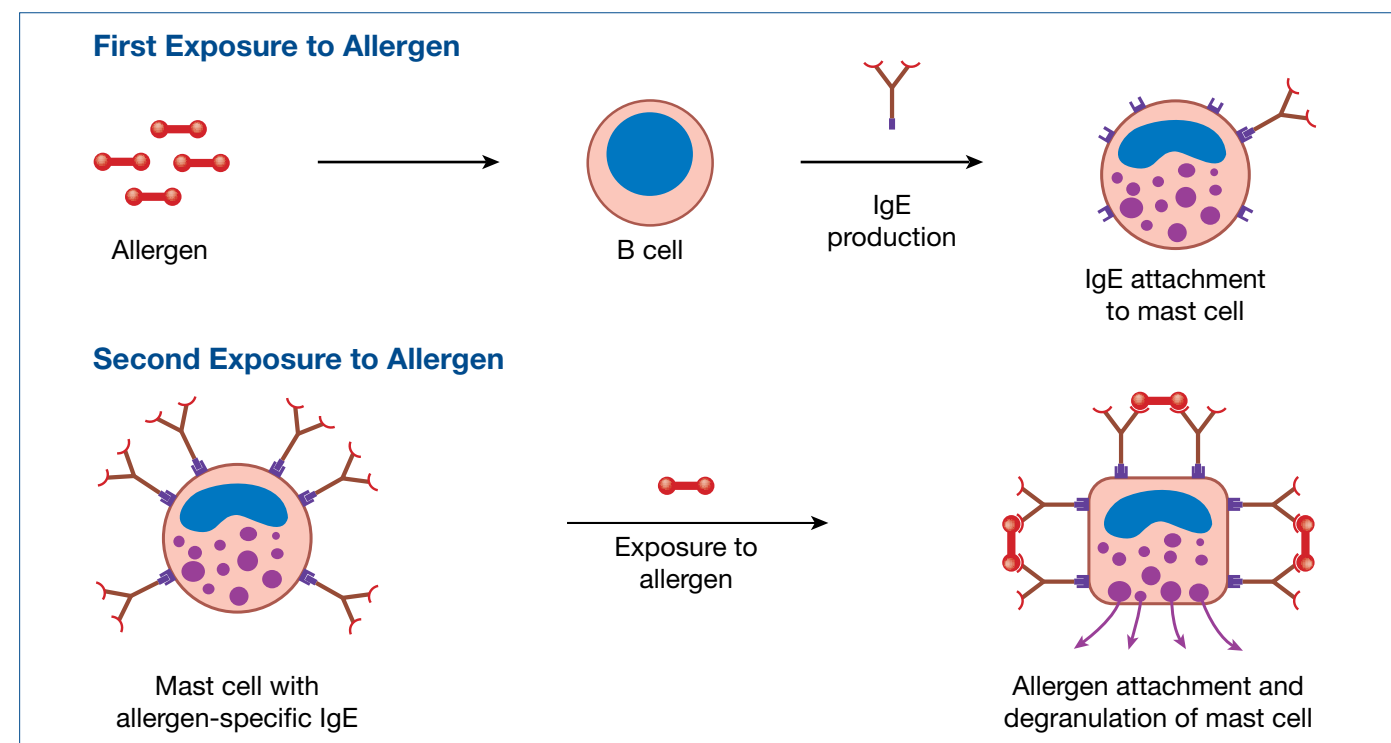


Figure 1

### Diagnostic use of sIgE testing

sIgE is usually measured to confirm an allergic aetiology for symptoms when there is a history that suggests a possible allergic cause. sIgE measurements are used in the diagnostic algorithm of Type I allergy as presented in Figure 2.

Testing for sIgE is not affected by medications. Interpretation of sIgE testing is very dependent on the clinical picture.

As with other tests in pathology, diagnostic accuracy is not 100 percent, ie. the presence of sIgE to a particular allergen is not 100 percent diagnostic of clinical reactivity to that allergen and absence of sIgE to a particular allergen does not 100 percent exclude clinical reactivity to that allergen.

While the level of sIgE correlates with the likelihood of allergy, it does not correlate with the severity of an allergic reaction. ie. severe reactions may occur in those with low level sIgE and vice versa.

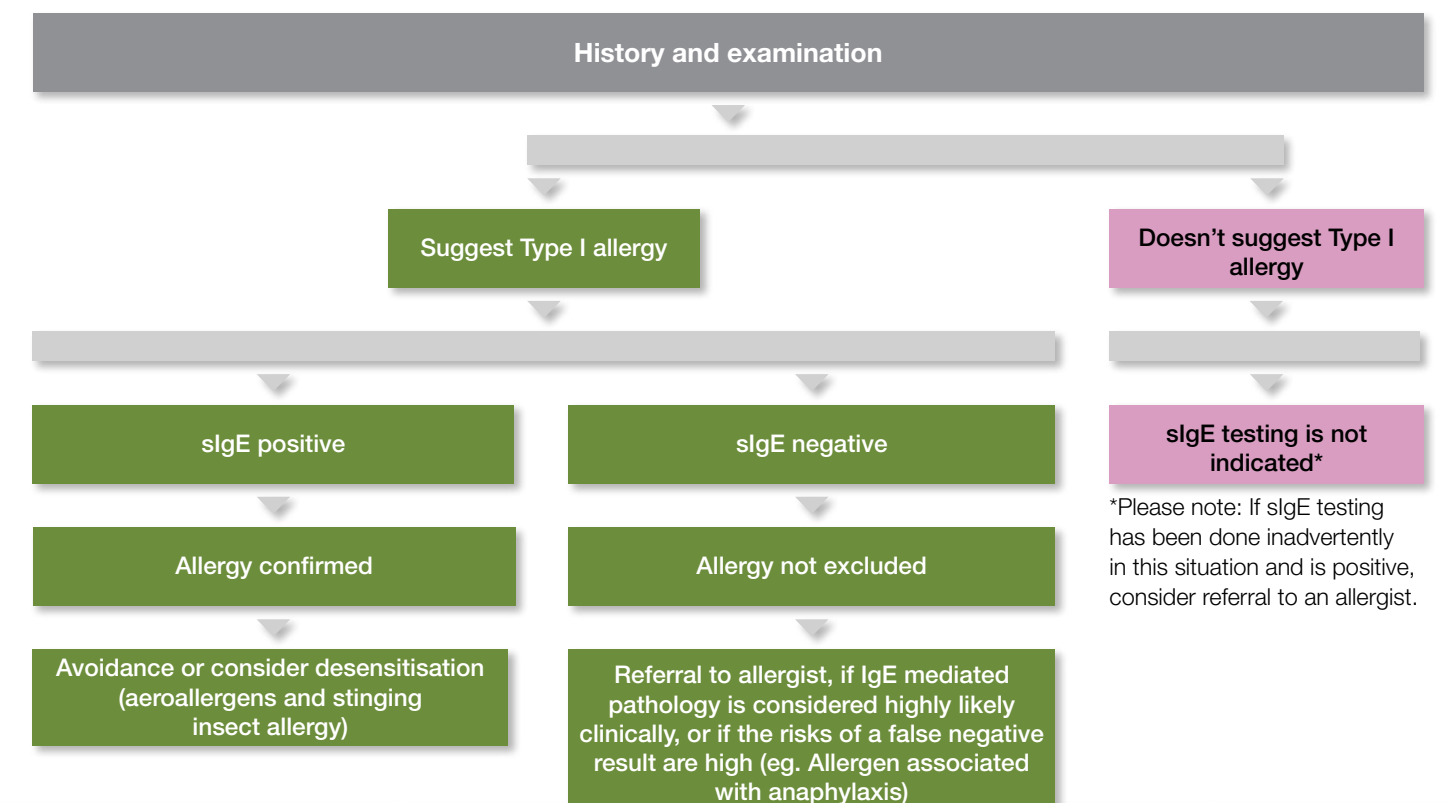


Figure 2

## Allergens for which sIgE can be measured

Several hundred allergens are available for testing. Targeted testing after a good clinical history allows maximisation of predictive values of sIgE tests.

### Allergens can be conveniently grouped according to Clinical Syndrome:

#### FOOD

Clinical manifestations of immediate hypersensitivity include one or more of acute urticaria, angioedema, wheeze or hypotension.

- **Most common in children:** Cow's milk, egg, peanut, tree nuts (most commonly cashew nut), sesame seed, soy and wheat
- **Most common in adults:** Peanut, tree nuts, "shellfish" (especially crustacean), fish, seeds and egg

#### AEROALLERGENS

Clinical manifestations include one or more of rhinitis, asthma and occasionally dermatitis.

##### Perennial

- House dust mite, pet dander and less commonly moulds (eg. *Penicillium/aspergillus*) and cockroach

##### Seasonal

- **Spring:** Perennial Rye grass/Bermuda grass
- **Summer:** Bermuda grass and moulds (eg. *Cladosporium*, *Alternaria*)
- **Late winter/spring:** Trees (eg. Oak, Plane, Birch, Mimosa/Wattle, Cupressaceae)

#### VENOMS

Clinical manifestations of an immediate generalised reaction – large local reactions are not an indication for testing eg. Honeybee, Yellowjacket, Paper wasp.

#### DRUGS/MEDICATIONS/OTHER

Clinical Manifestations of an immediate hypersensitivity include one or more of acute urticaria, angioedema, wheeze or hypotension eg. Penicillin, Latex.

## Allergens available

A full list of allergens is provided in our Allergen Menu.

## Pitfalls in sIgE testing

### Clinical false positives and false negatives

The presence of sIgE is required, but not alone sufficient for clinically apparent Type I allergic disease, ie. sIgE is not infrequently detected in individuals who do not suffer from allergy. Indiscriminate use of these tests, therefore, can lead to a significant number of positive results that are not clinically significant.

Furthermore, while the presence of sIgE on the surface of mast cells is a requirement for Type I allergic disease, some individuals possess mast cell bound IgE without detectable circulating IgE in the serum. Thus, if there is a high pre-test probability of allergy and the corresponding sIgE test is negative, it may be a clinical false negative.

The significance of these phenomena can be summarised in the following two statements:

1. If pre-test probability of allergy is low and RAST is low positive, post-test probability of allergy is still low.
2. If pre-test probability of allergy is high and RAST test is negative, post-test probability of allergy is still significant. ie. In the case of potentially life-threatening allergies (food, insect sting, drug), referral for formal allergy assessment should be considered.

### Unselected Panel Testing

This can be seen as a screen for atopy. The relevant allergen might not be included in an unselected panel, thus reducing sensitivity of the test. Conversely, testing unselected panels makes it more likely that an allergen which is not suspected based on the clinical history will yield a clinical false positive result.

## Clinical vignettes

1. A 35 year old female presents with a history of recurrent upper airway swelling following pesto. In between episodes, she has tolerated pinenut. Pesto often contains cashew nuts, so a cashew specific IgE is ordered and returns a result of 37 kIU/L. As she has tolerated other tree nuts in between episodes, she is told that she can continue to eat them cautiously (with the knowledge that there is a small risk of reacting to cross contaminating cashew) and supplied with an adrenaline auto-injector and anaphylaxis plan to improve her safety, should she have accidental exposure.
2. A 17 year old male with a history of allergic rhinitis only manifest in the spring has specific IgE ordered for House Dust Mite (HDM), Cat, Dog and "Perennial Rye Grass" (a grass that only pollinates in the spring in Victoria). HDM returns a result of 1.5 kIU/L, "Perennial Rye Grass", 3kIU/L with Cat and Dog giving results of <0.35 kIU/L. Due to the seasonal nature of the symptoms, the HDM result is likely to be a clinical false positive. He underwent "Perennial Rye Grass" specific immunotherapy (desensitisation) with good effect.
3. A 13 year old female with Type I diabetes is suffering from post prandial bloating and cramping. The symptoms follow seemingly unrelated foods, but a sIgE is performed to "exclude" an allergic cause. Milk and codfish sIgE are elevated at 1.3 and 0.9 respectively. She is told to avoid milk and fish and has mild improvement in her symptoms. As she is still symptomatic, coeliac serology is ordered and Deamidated Gliadin IgG is significantly elevated. She goes on to have an endoscopy and biopsy which confirms coeliac disease and her symptoms resolve with the institution of a strict gluten free diet. She reintroduces milk and fish without consequence. It is likely that these represented clinical false positives in the setting of low pre-test probability for these allergies. The avoidance of milk may have lead to mild improvement due to a lactose intolerance associated with poorly controlled coeliac disease, not cow's milk protein allergy.

## Conclusion

sIgE testing is very useful for confirmation of an allergic aetiology in the setting of a history that suggests a specific allergic cause for symptoms.

### Dr Gary Unglik

MBBS, FRACP, FRCPA

#### Immunology

After graduating from Monash University in 1997, Dr Unglik trained at the Royal Melbourne and Alfred Hospitals. He obtained combined fellowship with both the Royal Australasian College of Physicians and the Royal College of Pathologists of Australasia in 2007.

Dr Unglik joined Melbourne Pathology in February 2010 as a Consultant Immunopathologist. He is also a Consultant Clinical Immunologist and Allergist in the Department of Clinical Immunology and Allergy at the Royal Melbourne Hospital where he is also Consultant Immunopathologist in the Department of Pathology.

He is also a member of the Australasian Society of Clinical Immunology and Allergy.





## Allergen Menu

### Single Allergens \$5 each

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

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

DRUGS	
Amoxicilloyl	C6
Ampicilloyl	C5
Cefaclor	C7
Chlorhexidine	C8

Chymopapain	C209
Gelatin bovine	C74
Insulin human	C73
Morphine	C260
Penicilloyl G	C1
Penicilloyl V	C2
Pholcodine	C261
Suxamethonium (Succinylcholine)	C202
Tetanus toxoid	C208

GRASS & GRAIN POLLENS	
Bahia grass	G17
Barley grain	G201
Bermuda grass	G2
Brome grass	G11
Cultivated oat	G14
Cultivated wheat	G15
Grass pollen (Fescue)	G4
Johnson grass	G10
Meadow grass	G8
Perennial Rye grass	G5
Sweet vernal grass	G1
Timothy grass	G6
Velvet grass	G13

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

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

### Single Allergens \$5 each

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

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



MISCELLANEOUS	
Cotton crude fibres	O1
Seminal fluid	O70
Tetramin fish feed	O203
Tobacco leaf	O201

OCCUPATIONALS	
Alphagal	K048
Castor bean	K71
Chloramin T	K85
Ethylene oxide	K78
Formaldehyde/Formalin	K80
Green coffee bean	K70
Isocyanate HDI	K77
Isocyanate MDI	K76
Isocyanate TDI	K75
Ispaghula	K72
Latex, <i>Hevea braziliensis</i>	K82
Silk	K74
Silk waste	K73
Sunflower seed	K84
Trimellitic Anhydride TMA	K86

PARASITES	
Anisakis	P4
Ascaris	P1

TREE POLLENS	
Acacia	T19
American beech	T5
Australian pine	T73
Birch	T3
Box-elder	T1
Chestnut	T206
Cottonwood	T14
Cypress	T222
Date	T214
Elm	T8
<i>Eucalyptus</i>	T18
Grey alder	T2
Italian cypress	T23
Japanese cedar	T17
<i>Melaleuca</i>	T21
Mountain juniper	T6
Oak	T7
Oil palm	T223
Olive	T9
Peppertree	T217
Pine	T213
Privet pollen	T210
Red cedar	T57
Sweet gum	T211
Sycamore, London plane	T11
White ash	T15
White pine	T16
Willow	T12



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

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

# Allergen Menu

Single Allergens \$5 each

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

FRUIT & VEGETABLES	
Apple	F49
Apricot	F237
Asparagus	F261
Aubergine (eggplant)	F262
Avocado	F96
Bamboo shoot	F51
Banana	F92
Beetroot	F319
Blackberry	F211
Blueberry	F288
Broccoli	F260
Brussel sprouts	F217
Cabbage	F216
Carrot	F31
Cauliflower	F291
Celery	F85
Cherry	F242
Cucumber	F244
Date	F289
Fennel (fresh)	F276
Fig	F328
Garlic	F47
Grape	F259
Grapefruit	F209
Guava	F292
Kiwi fruit	F84



Lemon	F208
Lettuce	F215
Lime	F306
Lychee	F348
Mandarin	F302
Mango fruit	F91
Olive (black fresh)	F342
Onion	F48

Orange	F33
Papaya	F293
Passionfruit	F294
Peach	F95
Pear	F94
Persimmon	F301
Pineapple	F210
Plum	F255
Potato	F35
Pumpkin	F225
Raspberry	F343
Red currant	F322
Rockmelons	F87
Rose hip	F330
Spinach	F214
Strawberry	F44
Sweet potato	F54
Tomato	F25
Watermelon	F329

MEAT	
Beef	F27
Chicken meat	F83
Mutton	F88
Pork	F26
Rabbit meat	F213
Turkey meat	F284

POULTRY	
Chicken meat	F83
Egg white	F1
Egg yolk	F75
Turkey meat	F284

SEED, LEGUMES & NUTS	
Almond	F20
Barley	F6
Beans - green	F315
Beans - Lima	F182
Beans - Red kidney	F287

Beans - Soya	F14
Brazil nut	F18
Buckwheat	F11
Canola	F316
Cashew nut	F202
Chickpea	F309
Coconut	F36
Common millet	F55
Corn	F8
Fenugreek	F305
Gluten	F79
Hazel nut	F17
Japanese millet	F57
Lentil	F235
Linseed	F333
Lupin	F335
Macadamia nut	F345
Oat	F7
Pea	F12
Peanut	F13



Pecan nut	F201
Pine nut (pignoles)	F253
Pistachio	F203
Poppy seed	F224
Pumpkin seed	F226
Quinoa	F347
Rice	F9
Rye	F5
Sesame seed	F10
Spelt wheat	F124
Sweet Chestnut	F299
Walnut	F256
Wheat	F4
White bean	F15

Single Allergens \$5 each

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

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

FISH & SHELLFISH	
Abalone	F346
Anchovy	F313
Blue mussel	F37
Catfish	F369
Clam	F207
Crab	F23
Crayfish	F320
Eel	F264
Codfish	F3
Grouper	F410
Haddock	F42
Hake	F307
Halibut	F303
Herring	F205
Jack mackerel (Scad)	F60
Lobster	F80

Mackerel	F206
Octopus	F59
Oyster	F290
Red Snapper	F381
Salmon	F41
Sardine (Japanese Pilchard)	F61
Scallop	F338
Shrimp	F24
Snail	F314
Sole	F337
Squid	F258
Swordfish	F312
Trout	F204
Tuna	F40
Whitefish	F384



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

# Allergen Menu

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

## Allergen Menu

### Mixed Allergens \$10 each

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

HOUSE DUST			
Dust & Mite Mix	Dust and mite mix	<b>HX2</b>	(H2 D1 D2 I6)

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

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

TREE POLLEN MIXES			
Tree Mix 1	Box elder, Birch, Oak, Elm, Walnut	<b>TX1</b>	(T1 T3 T7 T8 T10)
Tree Mix 2	Box elder, Oak, Elm, Cottonwood, Pecan Hickory	<b>TX2</b>	(T1 T7 T8 T14 T22)
Tree Mix 3	Mountain Juniper, Oak, Elm, Cottonwood, Mesquite	<b>TX3</b>	(T6 T7 T8 T14 T20)
Tree Mix 4	Oak, Elm, Sycamore, Willow, Cotttonwood	<b>TX4</b>	(T7 T8 T11 T12 T14)
Tree Mix 5	Grey Alder, Hazel, Elm, Willow, Cottonwood	<b>TX5</b>	(T2 T4 T8 T12 T14)

Tree Mix 6	Box elder, Birch, American Beech, Oak, Walnut	<b>TX6</b>	(T1 T3 T5 T7 T10)
Tree Mix 7	Olive, Willow, White Pine, Eucalyptus, Acacia, Melaleuca	<b>TX7</b>	(T9 T12 T16 T18 T19 T21)
Tree Mix 8	Box elder, Birch, Hazel, Oak, Sycamore	<b>TX8</b>	(T1 T3 T4 T7 T11)
Tree Mix 9	Grey Alder, Birch, Hazel, Oak, Willow	<b>TX9</b>	(T2 T3 T4 T7 T12)
Tree Mix 10	Grey Alder, Birch,White Ash	<b>TX10</b>	(T2 T3 T4 T15)

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

MOULD MIXES			
Mould Mix 1	Penicillium chrysogenum, Cladosporium herbarum, Aspergillus fumigatus, Alternaria alternata	<b>MX1</b>	
Mould Mix 2	Penicillium chrysogenum, Cladosporium herbarum, Aspergillus fumigatus, Candida albicans, Alternaria alternata, Setomelanomma rostrata	<b>MX2</b>	(M1 M2 M3 M5 M6 M8)
Mould Mix 4	<i>A. fumigatus</i> , <i>A. niger</i> , <i>A. terreus</i> , <i>A. flavus</i>	<b>MX4</b>	(M3 M207 M36 M228)

## Allergen Menu

### Mixed Allergens \$10 each

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

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

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

FOOD MIXES			
Cereal Mix	Wheat, Oat, Maize, Sesame seed, Buckwheat	<b>FX3</b>	(F4 F7 F8 F10 F11)
Fruit Mix	Orange, Apple, Banana, Peach	<b>FX15</b>	(F33 F49 F92 F95)
Meat Mix	Pork, Beef, Chicken	<b>FX73</b>	(F26 F27 F83)
Nut Mix	Peanut, Hazel nut, Brazil nut, Almond, Coconut	<b>FX1</b>	(F13 F17 F18 F20 F36)
Seafood Mix	Fish, Shrimp, Blue mussel, Tuna, Salmon	<b>FX2</b>	(F3 F24 F37 F40 F41)
Spice Mix 1	Tarragon, Marjoram, Thyme, Lovage	<b>FX70</b>	(F272 F274 F273 F275)
Spice Mix 2	Caraway, Mace, Cardamon, Clove	<b>FX71</b>	(F265 F266 F267 F268)
Spice Mix 3	Basil, Fennel seed, Ginger, Anise	<b>FX72</b>	(F269 F219 F270 F271)
Staple Food Mix	Egg white, Milk, Fish, Wheat, Peanut, Soybean	<b>FX5</b>	(F1 F2 F3 F4 F13 F14)
Vegetable Mix	Carrot, Potato, Spinach, Cucumber	<b>FX19</b>	(F31 F35 F214 F244)
Food Mix 7	Tomato, Yeast, Garlic, Onion, Celery	<b>FX7</b>	(F25 F45 F47 F48 F85)
Food Mix 20	Wheat, Rye, Barley, Rice	<b>FX20</b>	(F4 F5 F6 F9)
Food Mix 26	Egg white, Cow's milk, Peanut, Mustard	<b>FX26</b>	(F1 F2 F13 F89)
Food Mix 74	Cod, Herring, Mackerel, Plaice	<b>FX74</b>	(F3 F205 F206 F254)

## Notes

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

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

VENOM	
Api m 1 Phospholipase A2, Honey Bee	I208
Ves v 1 Phospholipase A1, Common Wasp	I211
Ves v 5 Common Wasp	I209
Pol d 5 European Paper Wasp	I210

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>

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)	U953





### Head Office & Central Laboratory

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Couriers 9287 7788

Helpdesk 9287 7799

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### Regional Laboratories

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#### Frankston

Frankston Private Hospital  
24–28 Frankston-Flinders Rd 3199 9783 5582

#### Heidelberg

Suite 11, 210 Burgundy Street 3084 9459 7404

#### Mornington

The Bays Hospital, Vale Street 3931 5973 5811

#### Mulgrave

The Valley Private Hospital  
Suite 4, 529 Police Road 3170 9790 1388

#### Richmond

Epworth Centre  
Suite 2.2, 32 Erin Street 3121 9429 2222