

TESTS FOR ALLERGY

NEW TECHNOLOGY

In August 2009 we commissioned new allergy test systems that further extend our testing menu. Our new technology detects Specific IgE to clinically important individual allergen molecules. We continue to offer testing for allergens to whole food and inhalant allergens. The main analyser platforms and reagent systems are the Phadia ImmunoCAP 250, ImmunoCAP 1000 and ISAC ImmunoCAP. Our comprehensive menu is included in this brochure. You may request the allergens using their alphanumeric codes. Please precede these codes with "Specific IgE for", or "Allergy serology for", or "RAST for".



Dear Colleague,

Welcome to our new Allergy Test Menu, one of the largest internationally available allergy testing menus. All our specific IgE testing is now performed on the Phadia ImmunoCAP 250 and Phadia ImmunoCAP 1000 system (pages 3-10). 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 (see Table below). 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 that can have clinical significance as a marker of early sensitisation or previous significant sensitisation to insect venoms and drugs. In the most important practical advance in laboratory allergy diagnostics, the Phadia ImmunoCAP ISAC system now allows us to determine a patient's specific IgE to 103 clinically important allergen molecules from 47 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. Our new technology allows us to do this with recombinant ImmunoCAP allergens (page 10) or as a profile with the ISAC system (page 11). We continue to offer other tests important for assessing allergy problems: Total IgE, Tryptase, Eosinophilic Cationic Protein (ECP), C1 esterase and genetic testing for Hereditary Angioedema Types I, II and III (see next page).

We have always taken the view that we

should offer the best available allergy testing systems and give patients the opportunity to cover the cost of more definitive higher quality testing that the government will not meet. In May 2009, the Medicare Benefits Schedule reduced rebates for Allergy testing by 1%: a reimbursement that is now less than 20% of rebates in comparable countries for laboratory allergy testing. It is almost impossible to answer a simple, sensible laboratory allergy testing request within the constraints of the level of Medicare reimbursement. Consequently, the laboratory is unable to accept Medicare reimbursement for more than very basic allergy testing requests. In this menu, we seek to give your patients clear options and choices when it comes to allergy testing. You and your patients will be pleased to know that although some new allergens and mixes are more expensive, core individual allergens and extended panels are cheaper than previously.

Please send email enquiries to kbaumgart@dhm.com.au or Phone: 02 98 555 286

Karl W Baumgart
Director, Immunology

ALLERGEN SPECIFIC IgE

Specific IgE Levels Conferring Very High Risk

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%

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.

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 the following pages. 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.



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HANLY MOIR**
PATHOLOGY

"We take it personally"



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PATHOLOGY

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TOTAL IgE

Normal total IgE levels (< 100 kU/L) do not exclude significant allergies. Patients with normal total IgE levels can still be allergic to bee venom, dustmite, and many other allergens.

Significant specific IgE levels are extraordinarily rare in individuals with total IgE values of less than 7 kU/L.

Persons with very elevated total IgE levels are more likely to have significant elevations in specific IgE. Very elevated levels of total IgE also occur in persons with severe eczema, helminthic and parasitic infestations as well as allergobronchopulmonary aspergillosis (ABPA). Monitoring total IgE levels is useful in patients on immunosuppression for their severe eczema as well as in ABPA.

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.

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.

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.

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 \$395 (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 \$120. The laboratory can also perform sequencing of Factor XII if required. The fee is \$395 (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 below.

A1: CHILD 6 years or less

Total IgE	
D1	Dustmite
F1	Egg white
F2	Cow's milk
F13	Peanut
F14	Soy

A2: ADULT, or CHILD over 6 years

Total IgE	
D1	Dustmite
G4	Grass pollen (Fescue)
E1	Cat
E5	Dog
M6	Alternaria

OTHER COMMON INITIAL INVESTIGATION PANELS

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

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

A4 ANIMAL INHALANTS	
E1	Cat
E5	Dog
D1	Dustmite
G4	Grass pollen

A5 RURAL INHALANTS	
G17	Paspalum
WX1	Weed mix
MX1	Mould mix

A6 PETS	
E1	Cat
E5	Dog
E6	Guinea pig
E82	Rabbit

A7 MOULDS	
M2	Cladosporium
M3	Aspergillus
M5	Candida albicans
M6	Alternaria

OTHER COMMON INITIAL INVESTIGATION PANELS

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

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

A8 NATIVE TREES	
T18	Eucalyptus
T19	Acacia
T21	Melaleuca
T73	Australian Pine

A9 FOOD SCREEN	
FX1	Nut Mix
F23	Crab
F4	Wheat
F1	Egg

A10 NUTS	
F13	Peanut
F17	Hazelnut
F20	Almond
F201	Pecan nut

A11 SEAFOOD	
F3	Codfish
F23	Crab
F24	Prawn
F80	Lobster

A12 CEREALS	
F4	Wheat
F6	Barley
F9	Rice
F14	Soy

A13 STAPLE FOODS	
F1	Egg white
F2	Milk
F13	Peanut
F14	Soybean

A14 INSECTS	
I1	Honey bee venom
I4	Paper wasp venom
I3	Yellow Jacket
I70	Fire ant venom
I71	Mosquito

A15 LATEX & FOODS	
K82	Latex
F84	Kiwi fruit
F87	Melon
F92	Banana

A16 FOOD & INHALANTS

FX5	Staple Foods	G4	Grass Pollen (fescue)	D1	Dust Mite	M6	Alternaria
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A3 CHILD ALLERGY ASSESSMENT PANEL (REQUEST "IgE AND RAST A3")

This new 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 \$108, for which a Medicare rebate of \$22.95 may be available.

D1	Dustmite	M6	Alternaria alternata	F202	Cashew
E1	Cat Epithelium	F1	Egg White	F17	Hazelnut
E82	Rabbit Epithelium	F75	Egg Yolk	F35	Potato
E5	Dog	F2	Milk	F84	Kiwi Fruit
E3	Horse Dander	F3	Codfish	F91	Mango
G2	Bermuda Grass	F14	Soybean	F92	Banana
G4	Grass Pollen (fescue)	F4	Wheat	K82	Latex
G5	Perennial Rye Grass	F10	Sesame Seed	M80	Staph. Enterotoxin A
W21	Parietaria judaica	F13	Peanut	M70	Pityrosporum orbiculare

EXTENDED ALLERGEN PANEL EXAMPLES

* Our charge for each of these panels is \$80, 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	
D1	Dustmite
E1	Cat Epithelium
E5	Dog
E3	Horse Dander
D201	Blomia tropicalis
G2	Bermuda Grass
G4	Grass pollen (fescue)
G5	Perennial Rye Grass
E82	Rabbit Epithelium
W1	Common Ragweed
W9	English Plantain
W10	Lamb's Quarters
W21	Parietaria judaica
T18	Eucalyptus
T19	Acacia
T21	Melaleuca
T73	Australian Pine
M2	Cladosporium herbarum
M3	Aspergillus fumigatus
M6	Alternaria alternata

A21 MOULD & STORAGE MITES	
M1	Penicillium notatum
M2	Cladosporium herbarum
M3	Aspergillus fumigatus
M4	Mucor racemosus
M5	Candida albicans
M6	Alternaria alternata
M8	Helminthosporium
M9	Fusarium moniliforme
M10	Stemphylium botryosum
M13	Phoma betae
M14	Epicoccum purpurascens
M15	Trichoderma viride
M70	Pityrosporum orbiculare
D1	D. pteronyssinus
D70	Acarus siro
D71	Lepidoglyphus destructor
D72	Tyrophagus putrescentiae
D73	Glycyphagus domesticus
D74	Euroglyphus maynei
D201	Blomia tropicalis

A22 FOODS	
F1	Egg White
F2	Milk
F3	Codfish
F4	Wheat
F5	Rye
F6	Barley
F9	Rice
F10	Sesame Seed
F13	Peanut
F14	Soybean
F17	Hazelnut
F20	Almond
F27	Beef
F33	Orange
F35	Potato
F44	Strawberry
F45	Yeast
F84	Kiwi Fruit
F91	Mango
F92	Banana

A23 ANAPHYLACTIC FOODS	
F3	Codfish
F10	Sesame Seed
F13	Peanut
F17	Hazelnut
F18	Brazil Nut
F20	Almond
F23	Crab
F24	Prawn
F27	Beef
F36	Coconut
F40	Tuna
F41	Salmon
F80	Lobster
F84	Kiwi Fruit
F91	Mango
F92	Banana
F201	Pecan Nut
F256	Walnut
F290	Oyster
K82	Latex

CORE INDIVIDUAL ALLERGENS

c Core individual allergens, \$4 each

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

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



ANIMAL & AVIAN PROTEINS	
c E1	Cat epithelium & dander
c E3	Horse dander
c E4	Cow dander
c E5	Dog dander
c E6	Guinea pig epithelium
c E7	Pigeon droppings
c E71	Mouse epithelium
c E73	Rat epithelium
c E77	Budgerigar droppings
c E78	Budgerigar feathers
c E79	Budgerigar serum proteins
c E81	Sheep epithelium
c E82	Rabbit epithelium
c E85	Chicken feathers
c E201	Canary bird feathers
c E213	Parrot feathers
c E215	Pigeon feathers

GRASS & GRAIN POLLENS	
c G1	Sweet vernal grass
c G2	Bermuda grass
c G4	Grass pollen (Fescue)
c G5	Rye-grass
c G6	Timothy grass
c G8	Meadow grass
c G10	Johnson grass
c G11	Brome grass
c G15	Cultivated wheat
c G17	Paspalum

WEED POLLENS	
c W1	Common ragweed
c W4	False ragweed
c W5	Wormwood
c W6	Mugwort
c W9	English plantain
c W10	Goosefoot (Lamb's quarters)
c W18	Sheep sorrel
c W21	<i>Parietaria judaica</i>

TREE POLLENS	
c T3	Birch
c T7	Oak
c T8	Elm
c T9	Olive
c T11	Sycamore, London plane
c T15	White ash
c T16	White pine
c T17	Japanese cedar
c T18	<i>Eucalyptus</i>
c T19	<i>Acacia</i>
c T21	<i>Melaleuca</i>
c T23	Italian cypress
c T57	Red Cedar
c T73	Australian pine
c T210	Privet pollen

MOULDS, YEASTS & TOXINS	
c M1	<i>Penicillium notatum</i>
c M2	<i>Cladosporium herbarum</i>
c M3	<i>Aspergillus fumigatus</i>
c M4	<i>Mucor racemosus</i>
c M5	<i>Candida albicans</i> (yeast)
c M6	<i>Alternaria alternata</i>
c M8	<i>Helminthosporium halodes</i>
c M9	<i>Fusarium moniliforme</i>
c M10	<i>Stemphylium botryosum</i>
c M13	<i>Phoma betae</i>
c M14	<i>Epicoccum purpurascens</i>
c M15	<i>Trichoderma viride</i>
c M70	<i>Pityrosporum orbiculare</i>
c M80	Staphylococcus enterotoxin A
c M202	<i>Cephalosporium acremonium</i>
c M205	<i>Trichophyton rubrum</i>
c M227	<i>Malassezia spp.</i>

DRUGS	
c C1	Penicilloyl G
c C2	Penicilloyl V
c C5	Ampicilloyl
c C6	Amoxicilloyl
c C7	Cefaclor
c C73	Insulin, human
c C74	Gelatin, bovine

VENOMS	
c I1	Honey bee (<i>Apis mellifera</i>)
c I3	Yellow jacket (<i>Vespa spp. Common wasp</i>)
c I4	Paper wasp (<i>Polistes spp.</i>)
c I5	Yellow hornet (<i>Dolichovespula arenaria</i>)



INSECTS	
c I6	Cockroach (<i>Blattella germanica</i>)
c I70	Fire ant (<i>Solenopsis invicta</i>)
c I71	Mosquito spp. (<i>Aedes communis</i>)
c I72	Green nimiti (<i>Cladotanytarsus</i>)
c I202	Grain weevil (<i>Sitophilus granarius</i>)

PARASITES	
c P1	Ascaris
c P4	Anisakis

MISCELLANEOUS	
c O1	Cotton crude fibres
c O70	Seminal fluid

OCCUPATIONALS	
c K75	Isocyanate TDI
c K76	Isocyanate MDI
c K77	Isocyanate HDI
c K80	Formaldehyde/Formalin
c K82	Latex, <i>Hevea brasiliensis</i>
c K84	Sunflower seed

CORE INDIVIDUAL ALLERGENS

c Core individual allergens, \$4 each

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

FOOD	
c F1	Egg white
c F2	Milk
c F3	Fish (cod)



c F4	Wheat
c F5	Rye
c F6	Barley
c F7	Oat
c F8	Maize (Corn)
c F9	Rice
c F10	Sesame seed
c F11	Buckwheat
c F12	Pea
c F13	Peanut



c F14	Soya bean
c F15	White bean
c F17	Hazel nut
c F18	Brazil nut
c F20	Almond
c F23	Crab
c F24	Shrimp
c F25	Tomato
c F26	Pork
c F27	Beef
c F31	Carrot
c F33	Orange
c F35	Potato
c F36	Coconut
c F37	Blue mussel

c F40	Tuna
c F41	Salmon
c F44	Strawberry
c F45	Yeast (<i>S. cerevisiae</i>)
c F47	Garlic
c F48	Onion
c F49	Apple
c F59	Octopus
c F75	Egg yolk
c F79	Gluten
c F80	Lobster
c F81	Cheese Cheddar-type
c F82	Cheese Mould-type
c F83	Chicken meat
c F84	Kiwi fruit



c F85	Celery
c F86	Parsley
c F87	Melons
c F88	Mutton
c F89	Mustard
c F90	Malt
c F91	Mango fruit
c F92	Banana
c F93	Cacao
c F94	Pear
c F95	Peach
c F96	Avocado
c F201	Pecan nut
c F202	Cashew nut
c F203	Pistachio
c F204	Trout
c F207	Clam
c F208	Lemon
c F209	Grapefruit
c F210	Pineapple
e F211	Blackberry
c F212	Mushroom (champignon)
c F214	Spinach
c F215	Lettuce
c F216	Cabbage

c F218	Paprika (sweet pepper)
c F220	Cinnamon
c F221	Coffee
c F222	Tea
c F224	Poppy seed
c F225	Pumpkin
c F226	Pumpkin seed
c F235	Lentil
c F237	Apricot
c F242	Cherry
c F244	Cucumber
c F247	Honey
c F253	Pine nut (pignoles)
c F255	Plum
c F256	Walnut
c F258	Squid
c F259	Grape
c F260	Broccoli
c F261	Asparagus
c F262	Aubergine (eggplant)
c F263	Green pepper (unripe seed)
c F267	Cardamon
c F270	Ginger
c F279	Chili pepper
c F280	Black pepper
c F281	Curry
c F284	Turkey meat
c F287	Red Kidney Bean
c F290	Oyster
c F291	Cauliflower
c F293	Papaya
c F294	Passionfruit
c F299	Sweet Chestnut
c F300	Goat milk
c F302	Mandarin
c F309	Chickpea
c F315	Green bean
c F317	Coriander
c F322	Red currant
c F324	Hop (fruit cone)
c F329	Watermelon
c F333	Linseed
c F335	Lupin
c F338	Scallop
c F340	Cochineal (Carmine red, E120)
c F345	Macadamia nut
c F346	Abalone
c F347	Quinoa

CORE ALLERGEN MIXES

c Core mixed allergens \$8

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

HOUSE DUST			
c	HX2	(H2 D1 D2 I6)	Dust & Mite Mix

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

GRASS MIXES			
c	GX2	(G2 G5 G6 G8 G10 G17)	Grass Mix Bermuda grass, Rye grass, Timothy grass, Meadow grass, Johnson grass, Bahia grass

TREE MIXES			
c	TX7	(T9 T12 T16 T18 T19 T21)	Tree Mix Olive, Willow, White Pine, Eucalyptus, Acacia, Melaleuca

WEED MIXES			
c	WX1	(W1 W6 W9 W10 W11)	Weed Mix Common ragweed, Mugwort, English Plantain, Goosefoot, Lamb's Quarters, Saltwort
c	WX5	(W1 W6 W7 W8 W12)	Weed & Flower Mix Common ragweed, Mugwort, Ox-eye Daisy, Dandelion, Golden rod

ESOTERIC INDIVIDUAL ALLERGENS

e Esoteric individual allergens, \$12 each

Note: Requests for more than one of these will exceed our allowance under Medicare. Some esoteric allergen results may take up to five weeks

MITES (HOUSE DUST & STORAGE)	
e	D3 <i>Dermatophagoides microceras</i>

ANIMAL & AVIAN PROTEINS	
e	E70 Goose feathers
e	E72 Mouse urine proteins
e	E74 Rat urine proteins
e	E75 Rat serum proteins
e	E76 Mouse serum proteins
e	E80 Goat epithelium
e	E83 Swine epithelium
e	E84 Hamster epithelium
e	E86 Duck feathers
e	E87 Rat epithelium, serum & urine proteins

e	E88 Mouse epithelium, serum & urine proteins
e	E89 Turkey feathers
e	E196 Parakeet feathers
e	E197 Parakeet droppings
e	E198 Parakeet serum
e	E199 Canary bird serum
e	E200 Canary bird droppings
e	E202 Reindeer epithelium
e	E203 Mink epithelium
e	E204 BSA (bovine serum albumin)
e	E205 Horse serum proteins
e	E206 Rabbit serum proteins
e	E208 Chinchilla epithelium
e	E209 Gerbil epithelium

e	E210 Fox epithelium
e	E211 Rabbit urine proteins
e	E214 Finch feathers
e	E216 Deer epithelium
e	E217 Ferret epithelium
e	E218 Chicken droppings
e	E219 Chicken serum proteins
e	E220 Cat serum albumin
e	E221 Dog serum albumin
e	E222 Swine serum albumin

PARASITES	
e	P2 Echinococcus

MOULD MIXES			
c	MX2	(M1 M2 M3 M5 M6 M8)	Mould Mix Penicillium chrysogenum, Cladosporium herbarum, Aspergillus fumigatus, Candida albicans, Alternaria alternata, Setomelanomma rostrata

FOOD MIXES			
c	FX1	(F13 F17 F18 F20 F36)	Nut Mix Peanut, Hazel nut, Brazil nut, Almond, Coconut
c	FX2	(F3 F24 F37 F40 F41)	Seafood Mix Fish, Shrimp, Blue mussel, Tuna, Salmon
c	FX3	(F4 F7 F8 F10 F11)	Cereal Mix Wheat, Oat, Maize, Sesame seed, Buckwheat
c	FX5	(F1 F2 F3 F4 F13 F14)	Staple Food Mix Egg white, Milk, Fish, Wheat, Peanut, Soybean
c	FX15	(F33 F49 F92 F95)	Fruit Mix Orange, Apple, Banana, Peach
c	FX19	(F31 F35 F214 F244)	Vegetable Mix Carrot, Potato, Spinach, Cucumber
c	FX70	(F272 F274 F273 F275)	Spice Mix 1 Tarragon, Marjoram, Thyme, Lovage
c	FX71	(F265 RF266 F267 F268)	Spice Mix 2 Caraway, Mace, Cardamom, Clove
c	FX72	(F269 F219 F270 F271)	Spice Mix 3 Basil, Fennel seed, Ginger, Anise
c	FX73	(F26 F27 F83)	Meat Mix Pork, Beef, Chicken

OCCUPATIONAL MIXES			
c	PAX5	(K75 K76 K77 K79)	Chemicals 1 Isocyanates (TDI, MDI, HDI), Phthalic anhydride
c	PAX6	(K78 K79 K80 K85)	Chemicals 2 Ethylene oxide, Phthalic anhydride, Formaldehyde, Chloramin T

ESOTERIC INDIVIDUAL ALLERGENS

e Esoteric individual allergens, \$12 each

Note: Requests for more than one of these will exceed our allowance under Medicare. Some esoteric allergen results may take up to five weeks

MISCELLANEOUS	
e	O201 Tobacco leaf
e	O202 <i>Artemia salina</i> fish feed
e	O203 Tetramin fish feed
e	O207 Daphnia fish feed
e	O211 Mealworm <i>Tenebrio molitor</i>
e	O212 Streptavidin

GRASS & GRAIN POLLENS	
e	G3 Cocksfoot
e	G7 Common reed
e	G9 Redtop (Bentgrass)
e	G12 Cultivated rye
e	G13 Velvet grass
e	G14 Cultivated oat
e	G16 Meadow foxtail
e	G70 Wild rye grass
e	G71 Canary grass
e	G201 Barley
e	G202 Maize (Corn)
e	G203 Salt grass
e	G204 False oat-grass

TREE POLLENS	
e	T1 Box-elder
e	T2 Grey alder
e	T4 Hazel
e	T5 American beech
e	T6 Mountain juniper
e	T10 Walnut
e	T12 Willow
e	T14 Cottonwood
e	T20 Mesquite
e	T22 Pecan Hickory
e	T25 European ash
e	T37 Bald cypress
e	T41 White hickory
e	T44 Hackberry
e	T45 Cedar elm
e	T54 Russian olive
e	T55 Scotch broom
e	T56 Bayberry
e	T57 Red cedar
e	T70 Mulberry
e	T71 Red mulberry
e	T72 Queen Palm
e	T201 Spruce
e	T203 Horse chestnut
e	T205 Elder
e	T206 Chestnut
e	T207 Douglas fir
e	T208 Linden
e	T209 Horn beam

e	T211 Sweet gum
e	T212 Cedar
e	T213 Pine
e	T214 Date
e	T217 Peppertree
e	T218 Virginia live oak
e	T222 Cypress
e	T223 Oil palm

WEED & CROP POLLENS	
e	W2 Western ragweed
e	W3 Giant ragweed
e	W7 Ox-eye daisy
e	W8 Dandelion
e	W11 Saltwort (Russian thistle)
e	W12 Golden rod
e	W13 Cocklebur
e	W14 Common pigweed
e	W15 Scale Lenscale
e	W16 Rough marshelder
e	W17 Firebush
e	W19 <i>Parietaria officinalis</i>
e	W20 Nettle
e	W22 Japanese Hop
e	W23 Yellow dock
e	W45 Alfalfa
e	W46 Dog fennel
e	W82 Careless weed
e	W203 Rape (Canola)
e	W204 Sunflower
e	W206 Camomille
e	W207 Lupin
e	W210 Sugar-beet

DRUGS	
e	C8 Chlorhexidine
e	C70 Insulin porcine
e	C71 Insulin bovine
e	C202 Suxamethonium (Succinylcholine)
e	C208 Tetanus toxoid

MOULDS, YEASTS & TOXINS	
e	M7 <i>Botrytis cinerea</i>
e	M11 <i>Rhizopus nigricans</i>
e	M12 <i>Aureobasidium pullulans</i>
e	M16 <i>Curvularia lunata</i>
e	M36 <i>Aspergillus terreus</i>
e	M81 <i>Staphylococcus enterotoxin B</i>
e	M201 <i>Tilletia tritici</i>
e	M203 <i>Trichosporon pullulans</i>
e	M204 <i>Ulocladium chartarum</i>
e	M207 <i>Aspergillus niger</i>

e	M209 <i>Penicillium frequentans</i>
e	M208 <i>Chaetomium globosum</i>
e	M211 <i>Trichophyton ment. var. interdigitale</i>
e	M226 <i>Staphylococcus enterotoxin TSST</i>
e	M223 <i>Staphylococcus enterotoxin C</i>
e	M228 <i>Aspergillus flavus</i>

OCCUPATIONALS	
e	K70 Green coffee bean
e	K71 Castor bean
e	K72 Ispaghula
e	K73 Silk waste
e	K74 Silk
e	K78 Ethylene oxide
e	K79 Phthalic anhydride
e	K81 Ficus spp.
e	K83 Cotton seed
e	K85 Chloramin T
e	K86 Trimellitic Anhydride (TMA)
e	K87 Alpha-amylase
e	K201 Papain
e	K202 Bromelin
e	K203 Phospholipase
e	K204 Maxatase
e	K205 Alkalase
e	K206 Savinase
e	K208 Lysozyme
e	K209 Hexahydrophthalic anhydrid
e	K211 MTHP Anhydrid
e	K212 Abachi wood dust
e	K213 Pepsin
e	K214 Bougainvillea spp.

VENOMS	
e	I2 White-faced hornet (<i>Dolichovespula maculata</i>)
e	I77 European paper wasp (<i>Polistes dominulus</i>)
e	I75 European Hornet (<i>Vespa crabro</i>)
e	I205 Bumblebee

INSECTS	
e	I8 Moth
e	I73 Blood worm
e	I76 Berlin beetle
e	I201 Horse bot fly
e	I203 Mediterranean Flour Moth
e	I204 Horse fly
e	I206 Cockroach, American
e	I207 Cockroach, Oriental

ESOTERIC INDIVIDUAL FOOD ALLERGENS

e Esoteric individual food allergens, \$12 each

Note: Requests for more than one of these will exceed our allowance under Medicare. Some esoteric allergen results may take up to five weeks

FOOD					
e F42	Haddock	e F272	Tarragon	e F320	Crayfish
e F50	Chub (mackerel)	e F273	Thyme	e F321	Horse meat
e F51	Bamboo shoot	e F274	Marjoram	e F323	Conalbumin
e F54	Sweet potato	e F275	Lovage	e F325	Sheep milk
e F55	Common millet	e F276	Fennel fresh	e F326	Sheep whey
e F56	Foxtail millet	e F277	Dill	e F328	Fig
e F57	Japanese millet	e F278	Bay leaf	e F330	Rose hip
e F58	Pacific squid	e F283	Oregano	e F331	Saffron
e F60	Jack mackerel (Scad)	e F285	Elk-Moose meat	e F332	Mint
e F61	Sardine (Japanese) Pilchard	e F286	Mare's Milk	e F334	Bovine lactoferrin
e F124	Spelt wheat	e F288	Blueberry	e F336	Jujube
e F147	Gulf flounder	e F289	Date	e F337	Sole
e F182	Lima bean	e F292	Guava	e F339	Allspice
e F205	Herring	e F295	Carambola	e F342	Olive (black fresh)
e F206	Mackerel	e F296	Carob (E410)	e F343	Raspberry
e F213	Rabbit meat	e F297	Gum arabic (E414)	e F344	Sage
e F217	Brussel sprouts	e F298	Tragacanth (E413)	e F348	Lychee
e F219	Fennel seed	e F301	Persimmon	e F369	Catfish
e F227	Sugar-beet seed	e F303	Halibut	e F381	Red Snapper
e F231	Milk boiled	e F304	Langust (spiny lobster)	e F384	Whitefish
e F234	Vanilla	e F305	Fenugreek	e F410	Grouper
e F236	Cow's whey	e F306	Lime	e F412	Orange roughy
e F245	Egg	e F307	Hake	e F413	Pollock
e F246	Guar, guar gum (E412)	e F308	Sardine(Pilchard)	e F414	Tilapia
e F254	Plaice	e F310	Blue vetch	e F415	Walleye pike
e F264	Eel	e F311	Megrim		
e F265	Caraway	e F312	Swordfish		
e F266	Mace	e F313	Anchovy		
e F268	Clove	e F314	Snail		
e F269	Basil	e F316	Rape (Canola) seed		
e F271	Anise	e F318	Jack fruit		
		e F319	Beetroot		



ESOTERIC ALLERGEN MIXES

e Esoteric mixed allergens \$12 each

Note: Requests for more than one of these will exceed our allowance under Medicare. Some esoteric allergen results may take up to five weeks

e RX3	(G2 G5 G17 W1 W9 W10)	Inhalant 3	Bermuda grass, Rye grass, Bahia grass, Common Ragweed, English Plantain, Goosefoot Lamb's Quarters
e RX4	(G2 G5 G1 W1 W6 W9)	Inhalant 4	Sweet Vernal grass, Bermuda grass, Rye grass, Common Ragweed, Mugwort, English Plantain,
e RX5	(D1 E1 M3 I6)	Inhalant 5	<i>Dermatophagoides pteronyssinus</i> , Cat dander, <i>Aspergillus fumigatus</i> , Cockroach
e RX6	(T3 G6 W6 M2 M6)	Inhalant 6	Birch, Timothy grass, Mugwort, <i>Cladosporium</i> , <i>Alternaria alternata</i>
e RX7	(D1 E1 E3 E5 E82)	Inhalant 7	<i>Dermatophagoides pteronyssinus</i> , Cat dander, Horse dander, Dog dander, Rabbit epithelium

TREE MIXES

e TX1	(T1 T3 T7 T8 T10)	Tree Mix 1	Box elder, Birch, Oak, Elm, Walnut
e TX2	(T1 T7 T8 T14 T22)	Tree Mix 2	Box elder, Oak, Elm, Cottonwood, Pecan Hickory
e TX3	(T6 T7 T8 T14 T20)	Tree Mix 3	Mountain Juniper, Oak, Elm, Cottonwood, Mesquite
e TX4	(T7 T8 T11 T12 T14)	Tree Mix 4	Oak, Elm, Sycamore, Willow, Cottonwood
e TX5	(T2 T4 T8 T12 T14)	Tree Mix 5	Grey Alder, Hazel, Elm, Willow, Cottonwood
e TX6	(T1 T3 T5 T7 T10)	Tree Mix 6	Box elder, Birch, American Beech, Oak, Walnut
e TX8	(T1 T3 T4 T7 T11)	Tree Mix 8	Box elder, Birch, Hazel, Oak, Sycamore
e TX9	(T2 T3 T4 T7 T12)	Tree Mix 9	Grey Alder, Birch, Hazel, Oak, Willow
e TX10	(T2 T3 T4 T15)	Tree Mix 10	Grey Alder, Birch, White Ash

WEED MIXES

e WX2	(W2 W6 W9 W10 W15)	Weed Mix 2	Western ragweed, Mugwort, English Plantain, Goosefoot Lamb's Quarters, Scale Lenscale
e WX3	(W6 W9 W10 W12 W20)	Weed Mix 3	Mugwort, English Plantain, Goosefoot Lamb's Quarters, Golden rod, Nettle
e WX6	(W9 W10 W11 W18)	Weed Mix 6	English Plantain, Goosefoot Lamb's Quarters, Saltwort Russian Thistle, Sheep sorrel
e WX7	(W7 W8 W9 W10 W12)	Weed Mix 7	Ox-eye Daisy, Dandelion, English Plantain, Goosefoot Lamb's Quarters, Golden rod
e WX209	(W1 W2 W3)	Weed Mix 209	Common ragweed, Western ragweed, Giant ragweed

MOULD MIXES			
e MX1	(M1 M2 M3 M6)	Mould Mix 1	<i>Penicillium chrysogenum</i> , <i>Cladosporium herbarum</i> , <i>Aspergillus fumigatus</i> , <i>Alternaria alternata</i>
e MX4	(M3 M207 M36 M228)	Mould Mix 4	<i>A. fumigatus</i> , <i>A. niger</i> , <i>A. terreus</i> , <i>A. flavus</i>

FOOD MIXES

e FX7	(F25 F45 F47 F48 F85)	Food Mix 7	Tomato, Yeast, Garlic, Onion, Celery
e FX8	(F17 F18 F33 F49 F93)	Food Mix 8	Hazel nut, Brazil nut, Orange, Apple, Cacao
e FX9	(F20 F84 F87 F92 F259)	Food Mix 9	Almond, Kiwi, Melons, Banana, Grape
e FX10	(F26 F27 F75 F83 F284)	Food Mix 10	Pork, Beef, Egg yolk, Chicken, Turkey
e FX11	(F8 F12 F15 F31 F260)	Food Mix 11	Maize, Pea, White bean, Carrot, Broccoli
e FX12	(F5 F9 F35 F225 RF212)	Food Mix 12	Rye, Rice, Potato, Mushroom, Pumpkin
e FX13	(F12 F15 F31 F35)	Food Mix 13	Pea, White bean, Carrot, Potato
e FX14	(F25 F214 F216 F218)	Food Mix 14	Tomato, Spinach, Cabbage, Paprika
e FX16	(F44 F94 F208 F210)	Food Mix 16	Strawberry, Pear, Lemon, Pineapple
e FX17	(F49 F92 F94 F95)	Food Mix 17	Apple, Banana, Pear, Peach
e FX18	(F12 F13 F14)	Food Mix 18	Pea, Peanut, Soybean
e FX20	(F4 F5 F6 F9)	Food Mix 20	Wheat, Rye, Barley, Rice
e FX21	(F84 F87 F92 F95 F210)	Food Mix 21	Kiwi fruit, Melon, Banana, Peach, Pineapple
e FX22	(F201 F202 F203 F256)	Food Mix 22	Pecan nut, Cashew nut, Pistachio, Walnut
e FX23	(F26 F27 F83 F284)	Food Mix 23	Pork, Beef, Chicken meat, Turkey meat
e FX24	(F17 F24 F84 F92)	Food Mix 24	Hazel nut, Shrimp, Kiwi fruit, Banana
e FX25	(F10 F45 F47 F85)	Food Mix 25	Sesame seed, Yeast, Garlic, Celery
e FX26	(F1 F2 F13 F89)	Food Mix 26	Egg white, Cow's milk, Peanut, Mustard
e FX27	(F3 F4 F14 F17)	Food Mix 27	Fish (cod), Wheat, Soybean, Hazel nut
e FX28	(F10 F24 F27 F84)	Food Mix 28	Sesame seed, Shrimp, Beef, Kiwi
e FX29	(F33 F208 F209 F302)	Food Mix 29	Orange, Lemon, Grapefruit, Mandarin
e FX30	(F84 F91 F92 F293)	Food Mix 30	Kiwi, Mango, Banana, Avocado, Papaya
e FX31	(F49 F94 F95 F242 F255)	Food Mix 31	Apple, Pear, Peach, Cherry, Plum
e FX32	(F235 F12 F15 RF296)	Food Mix 32	Lentil, Pea, White bean, Carob
e FX74	(F3 F205 F206 F254)	Food Mix 74	Cod, Herring, Mackerel, Plaice

OCCUPATIONAL MIXES

e PAX1	(E3 E4 E70 E85)		Horse & Cow dander, Goose & Chicken feathers
e PAX3	(M3 M6 G12 G15)		Aspergillus, Alternaria, Wheat & Rye pollen
e PAX4	(F4 F14 K87 I202)		Wheat & Soy flour, alpha-amylase, <i>Sitophilus granarius</i>

ESOTERIC ALLERGEN MIXES

e Esoteric mixed allergens \$12 each

Note: Requests for more than one of these will exceed our allowance under Medicare. Some esoteric allergen results may take up to five weeks

ANIMAL MIXES			
e EX70	(E6 E82 E84 E87 E88)	Animal Mix 3	Guinea pig epithelium, Rabbit epithelium, Hamster epithelium, Rat, Mouse
e EX73	(E70 E85 E86 E213)	Animal Mix 4	Goose feathers, Chicken feathers, Duck feathers, Parrot feathers

e GX4	(G1 G5 G7 G12 G13)	Grass Mix 4	Sweet Vernal grass, Rye grass, Common reed, Cultivated rye, Velvet grass
e GX6	(G2 G5 G10 G11 G13 G17)	Grass Mix 6	Bermuda grass, Rye grass, Johnson grass, Brome grass, Velvet grass, Bahia grass

GRASS MIXES			
e GX1	(G3 G4 G5 G6 G8)	Grass Mix 1	Cocksfoot, Meadow Fescue, Rye grass, Timothy grass, Meadow grass
e GX3	(G1 G5 G6 G12 G13)	Grass Mix 3	Sweet Vernal grass, Rye grass, Timothy grass, Cultivated Rye, Velvet grass

COMBINATION INHALANT MIXES			
e RX1	(G6 W6 W9 W21 T3)	Inhalant 1	Timothy grass, Mugwort, English Plantain, Parietaria, Birch
e RX2	(D2 E1 E3 E5 M6)	Inhalant 2	<i>Dermatophagoides farinae</i> , Cat dander, Horse dander, Dog dander, <i>Alternaria alternata</i>

RECOMBINANT AND NATIVE INDIVIDUAL ALLERGEN MOLECULES

- n Individual Native (n) \$40 each
- r Recombinant (r) allergen molecules \$40 each

ANIMALS

r E94	rFel d1 (recombinant cat)
r E220	nFel d 2 Cat serum albumin Felis domesticus
r E101	rCan f1 (recombinant dog)
r E102	rCan f2 (recombinant dog)
n E221	nCan f 3 Dog serum albumin Canis familiaris
n E204	nBos d 6 BSA, Cow Bos spp.
n E222	nSus s Pig serum albumin, Swine Sus scrofa

GRASSES

r G205	rPhl p 1 (recombinant timothy)
r G206	rPhl p 2 (recombinant timothy)
r G208	rPhl p 4 (native timothy)
r G209	rPhl p 6 (recombinant timothy)
r G210	rPhl p 7 (recombinant timothy)
r G211	rPhl p 11 (recombinant timothy)
r G212	rPhl p 12 (recombinant timothy)
r G213	rPhl p1; rPhl p5b (recombinant timothy)
r G214	rPhl p7; rPhl p12 (recombinant timothy)
r G215	rPhl p 5b (recombinant timothy)
n G216	nCyn d 1 Bermuda grass, Cynodon dactylon

FOODS

c F76	nBos d 4 a-lactalbumin, Milk Bos spp.
c F77	nBos d 5 b-lactoglobulin, Milk Bos spp.
c F78	nBos d 8 Casein, Milk Bos spp.

c Core individual allergens, \$4 each
Note: These allergens are priced as core individual allergens (\$4 ea)

FOODS

n F232	nGal d 2 Ovalbumin, Egg Gallus spp.
n F233	nGal d 1 Ovomuroid, Egg Gallus spp.
n F323	nGal d 3 Conalbumin, Egg Gallus spp.

n F334	nBos d Lactoferrin, Milk Bos spp.
r F351	rPen a 1 Tropomyosin, Shrimp <i>Penaeus aztecus</i>
r F353	rGly m 4 PR-10, Soy Glycine
r F354	rBer e 1 Brazil nut, Bertholletia excelsa
r F355	rCyp c 1 Carp Cyprinus carpio
r F417	rApi g 1.01 PR-10, Celery <i>Apium graveolens</i>
r F418	rApi g 1.02 (recombinant Celery)
r F419	rPru p 1 PR-10, Peach Prunus persica
r F420	rPru p 3 LTP, Peach Prunus persica
r F421	rPru p 4 Profilin, Peach Prunus persica
r F416	rTri a 19 Omega-5 Gliadin, Wheat Triticum spp
r F422	rAra h 1 Peanut <i>Arachis hypogaea</i>
r F423	rAra h 2 Peanut <i>Arachis hypogaea</i>
r F424	rAra h 3 Peanut <i>Arachis hypogaea</i>
r F352	rAra h 8 PR-10, Peanut <i>Arachis hypogaea</i>
r F427	rAra h 9 LTP, Peanut <i>Arachis hypogaea</i>
r F425	rCor a 8 LTP, Hazel nut <i>Corylus avellana</i>
r F426	rGad c 1 Cod <i>Gadus morhua</i>
r F428	rCor a 1 PR-10, Hazel nut <i>Corylus avellana</i>

TREES

r T215	rBet v 1 PR-10, Birch <i>Betula verrucosa</i>
r T216	rBet v 2 Profilin, Birch <i>Betula verrucosa</i>
r T220	rBet v 4, Birch <i>Betula verrucosa</i>
r T221	rBet v 2, rBet v 4 Birch <i>Betula verrucosa</i>
r T225	rBet v 6 Birch <i>Betula verrucosa</i>
n T224	nOle e 1 Olive <i>Olea europaea</i>

WEEDS

r W211	rPar j 2 (recombinant parietaria)
n W230	nAmb a 1, Ragweed <i>Ambrosia eliator</i>
n W231	nArt v 1, Mugwort <i>Artemisia vulgaris</i>

MOULDS

r M218	rAsp f1 (recombinant aspergillus)
r M219	rAsp f2 (recombinant aspergillus)
r M220	rAsp f3 (recombinant aspergillus)
r M221	rAsp f4 (recombinant aspergillus)
r M222	rAsp f6 (recombinant aspergillus)
r M229	rAlt a 1 (component alternaria)

LATEX

r K215	rHev b 1, Latex <i>Hevea brasiliensis</i>
r K217	rHev b 3, Latex <i>Hevea brasiliensis</i>
r K218	rHev b 5, Latex <i>Hevea brasiliensis</i>
r K219	rHev b 6.01, Latex <i>Hevea brasiliensis</i>
r K220	rHev b 6.02, Latex <i>Hevea brasiliensis</i>
r K221	rHev b 8, Profilin, Latex <i>Hevea brasiliensis</i>
r K222	rHev b 9, Latex <i>Hevea brasiliensis</i>
r K224	rHev b 11, Latex <i>Hevea brasiliensis</i>

VENOM

n K203	nApi m 1, Phospholipase A2, Bee <i>Apis mellifera</i>
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OCCUPATIONAL ALLERGENS

n K205	Alkalase, Bacillus spp.
n K87	nAsp o 1, a-amylase Aspergillus oryzae
n K201	nCar p 1, Papain, Papaya <i>Carica papaya</i>
n K208	nGal d 4, Lysozyme, Egg Gallus spp.
n K204	Maxatase, Bacillus licheniformis
n K206	Savinase, Bacillus spp.
n K213	nSus s Pepsin, Swine Sus scrofa

OTHERS (to exclude CCD reactivity)

n Ro214	MUXF3 CCD, Bromelain
n K202	nAna c 2 Bromelain, Pineapple <i>Ananas comosus</i>

ImmunoCAP ISAC® Allergen Components

Allergen Component	Allergen Source	Protein Group
COMMON NAME	LATIN NAME	
PLANTS		
nCyn d 1	Bermuda grass	<i>Cynodon dactylon</i> Grass group 1
rPhl p 1	Timothy	<i>Phleum pratense</i> Grass group 1
rPhl p 2	Timothy	<i>Phleum pratense</i> Grass group 2
nPhl p 4	Timothy	<i>Phleum pratense</i>
rPhl p 5	Timothy	<i>Phleum pratense</i> Grass group 5
rPhl p 6	Timothy	<i>Phleum pratense</i>
rPhl p 11	Timothy	<i>Phleum pratense</i>
rBet v 1	Birch	<i>Betula verrucosa</i> PR-10 protein
rAln g 1	Alder	<i>Alnus glutinosa</i> PR-10 protein
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>
rPla a 1	Plane tree	<i>Platanus acerifolia</i>
nPla a 2	Plane tree	<i>Platanus acerifolia</i>
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)
rPar j 2	Wall pellitory	<i>Parietaria judaica</i> Lipid transfer protein (nsLTP)
nSal k 1	Saltwort	<i>Salsola kali</i>
nAct d 1	Kiwi	<i>Actinidia deliciosa</i>
nAct d 2	Kiwi	<i>Actinidia deliciosa</i>
nAct d 5	Kiwi	<i>Actinidia deliciosa</i>
nAct d 8	Kiwi	<i>Actinidia deliciosa</i> PR-10 protein
rApi g 1	Celery	<i>Apium graveolens</i> PR-10 protein
rDau c 1	Carrot	<i>Daucus carota</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
nPru p 3	Peach	<i>Prunus persica</i> Lipid transfer protein (nsLTP)
rAna o 2	Cashew nut	<i>Anacardium occidentale</i>
nAra h 1	Peanut	<i>Arachis hypogaea</i> Storage protein, vicilin
nAra h 2	Peanut	<i>Arachis hypogaea</i> Storage protein, Conglutin
nAra h 3	Peanut	<i>Arachis hypogaea</i> Storage protein, 11S globulin
rAra h 8	Peanut	<i>Arachis hypogaea</i> PR-10 protein
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
rGly m 4	Soybean	<i>Glycine max</i> PR-10 protein
nGly m 5	Soybean	<i>Glycine max</i> Storage protein, b-conglycinin
nGly m 6	Soybean	<i>Glycine max</i> Storage protein, glycinin
nSes i 1	Sesame seed	<i>Sesamum indicum</i> Storage protein, 2S albumin
nTri a 18	Wheat	<i>Triticum aestivum</i>
nTri a gliadin	Wheat	<i>Triticum aestivum</i> Crude gliadin
rTri a 19.0101	Wheat	<i>Triticum aestivum</i> Omega-5 gliadin
nTri a aA_TI	Wheat	<i>Triticum aestivum</i>
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	Latex	<i>Hevea brasiliensis</i>

CROSS REACTIVE MARKERS, PLANTS

rBet v 4	Birch	<i>Betula verrucosa</i>	Calcium binding protein, Polcalcin
rPhl p 7	Timothy	<i>Phleum pratense</i>	Calcium binding protein, Polcalcin
rBet v 2	Birch	<i>Betula verrucosa</i>	Profilin
rHev b 8	Latex	<i>Hevea brasiliensis</i>	Profilin
rMer a 1	Annual mercury	<i>Mercurialis annua</i>	Profilin
nOle e 2	Olive	<i>Olea europaea</i>	Profilin
rPhl p 12	Timothy	<i>Phleum pratense</i>	Profilin
nAna c 2	Bromelain	<i>Ananas comosus</i>	CCD marker

ImmunoCAP ISAC® Allergen Components

Allergen Component	Allergen Source	Protein Group
COMMON NAME	LATIN NAME	
NON-PLANTS		
nBos d 6	BSA	<i>Bos domesticus</i> Serum albumin
nBos d 8	Cow's milk	<i>Bos domesticus</i> Caseins
nBos d	lactoferrin	<i>Bos domesticus</i> Laktoferrin
nGal d 1	Egg	<i>Gallus domesticus</i> Ovomuroid
nGal d 2	Egg	<i>Gallus domesticus</i> Ovalbumin
nGal d 3	Egg	<i>Gallus domesticus</i> Conalbumin
nGal d 5	CSA (Livetin)	<i>Gallus domesticus</i> Serum albumin
rCyp c 1	Carp	<i>Cyprinus carpio</i> Parvalbumin
rGad c 1	Cod	<i>Gadus callarias</i> Parvalbumin
rDer 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>
nDer p 2	House dust mite	<i>Dermatophagoides pteronyssinus</i>
rEur m 2	Storage mite	<i>Euroglyphus maynei</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
nEqu c 3	Horse	<i>Equus caballus</i> Serum albumin
rFel d 1	Cat	<i>Felis domesticus</i> Uteroglobin
nFel d 2	Cat	<i>Felis domesticus</i> Serum albumin
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>
rAsp f 1	Aspergillus	<i>Aspergillus fumigatus</i>
rAsp f 2	Aspergillus	<i>Aspergillus fumigatus</i>
rAsp f 3	Aspergillus	<i>Aspergillus fumigatus</i>
rAsp f 4	Aspergillus	<i>Aspergillus fumigatus</i>
rAsp f 6	Aspergillus	<i>Aspergillus fumigatus</i>
rCla h 8	Cladosporium	<i>Cladosporium herbarum</i>
nApi m 1	Honey bee venom	<i>Apis mellifera</i> Phospholipase A2
nApi m 4	Honey bee venom	<i>Apis mellifera</i> Melittin
rBla g 1	Cockroach	<i>Blattella germanica</i>
rBla g 2	Cockroach	<i>Blattella germanica</i>
rBla g 4	Cockroach	<i>Blattella germanica</i>
rBla g 5	Cockroach	<i>Blattella germanica</i>
rAni s 1	Anisakis	<i>Anisakis simplex</i>

CROSS REACTIVE MARKERS, NON-PLANTS

rAni s 3	Anisakis	<i>Anisakis simplex</i>	Tropomyosin
nBla g 7	Cockroach	<i>Blattella germanica</i>	Tropomyosin
rDer p 10	House dust mite	<i>Dermatophagoides pteronyssinus</i>	Tropomyosin
rPen a 1	Shrimp	<i>Penaeus aztecus</i>	Tropomyosin
nPen i 1	Shrimp	<i>Penaeus indicus</i>	Tropomyosin
nPen m 1	Shrimp	<i>Penaeus monodon</i>	Tropomyosin

ImmunoCAP ISAC® (\$350 per profile)

The ISAC (Immuno Solid-phase Allergen Chip) is a microarray system developed by VBC Genomics and Phadia. ISAC can now allow laboratories to reliably and simultaneously determine specific IgE levels to a wide range of clinically important individual allergen molecules more economically than using many individual recombinant CAP allergens.

Clinical studies have shown that, for example, even modest levels of serum specific IgE level to ara h 2, one of the nine major peanut allergens, are strongly predictive of more severe reactions and poor tolerance of oral challenges. Similarly, modest levels of serum specific IgE to ovomucoid, an egg allergen which is heat resistant, are strongly predictive of poor tolerance to even cooked egg in a baked cake; the first challenge usually used by allergy clinics when one is confident that a child might be starting to lose their egg allergy.

The ISAC profiles are performed in

BILLING POLICY FOR ALLERGY TESTING

Our policy is to respect your request for the allergens and decode them according to our best practice. If you have requested more allergens than our allowance under Medicare, we will bill your patient according to the pricing in this menu. 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 Allergy menu that we now list a price for each allergen reagent and that this is organised into different allergen classes. Core individual allergens are \$4, core mixed allergens are \$8, esoteric individual allergens are \$12 and esoteric mixed allergens are also \$12. Our highly specialised recombinant (r) or native (n) individual allergen molecules are \$40, and the ISAC profile, which tests 103 different individual allergen molecules from 47 different allergens, is \$350.

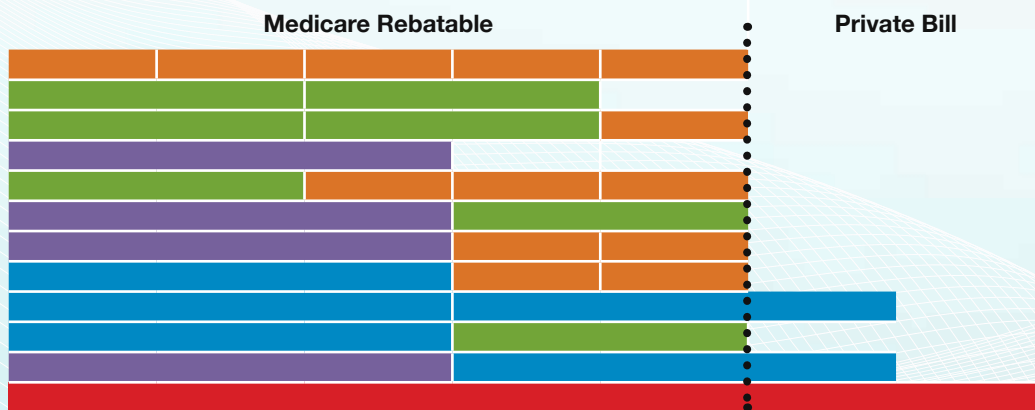
If the price of the allergens requested is more than the Medicare rebate of \$22.95, the laboratory will not accept bulk-billing for the request and the patient will be billed according to the price on the menu and may claim a rebate, subject to coning. Practically, this means we will not accept a bulk-billed request for more than five core individual allergens, or two core mixed allergens, or more than one esoteric individual or mixed allergens. However, one core mixed allergen plus three core individual allergens would be covered by the Medicare rebate. Similarly, two core mixed allergens *plus* one core individual allergen would be covered under our allowance under Medicare. One esoteric mixed or individual allergen *plus* two core individual allergens or one core mixed allergen would be covered under our allowance under Medicare. A simple table summarises this for you and your patients.

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

WHAT CAN YOU ORDER THAT IS MEDICARE REBATABLE?

Our Fee For Different Allergen Types

Core individual	\$4	
Core mix	\$8	
Esoteric Individual	\$12	
Esoteric Mix	\$12	
Recombinant/ Native	\$40	



Combinations beyond the black line will be privately billed but patients may be eligible for a Medicare rebate of \$22.95.

For further information regarding allergy testing please contact Dr Karl Baumgart, Director of Immunology on (02) 98 555 286 or email kbaumgart@dhm.com.au

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