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Asean Allergen Screen Personalised Report

Summary Report

	ALLERGIC REACTION STRENGTH				
	Negative (0)	Low (1)	Moderate (2)	High (3)	Very High (4)
Total IgE 特异性抗体 总数					
INHALANT					
House Dust 屋尘					
Blomia Tropicalis 屋尘螨					
Dust mite (D. pteronyssinus) 屋尘螨					
Dust mite (D. farinae) 屋尘螨					
Cockroach 蟑螂					
PET					
Cat dander 猫					
Dog dander 狗					
FOOD					
Banana 香蕉					
Orange 橙					
Rice (white) 白米饭					
Wheat 麦					
Sesame Seed 芝麻					
Soybean 豆奶					
Peanuts 花生					
Cows milk 牛奶					
Chocolate 巧克力					
Egg yolk 蛋黄					
Egg white 蛋白					
Chicken 鸡肉					
Beef 牛肉					
Clam 蚌类					
Crab 螃蟹					
Shrimp 虾					
Codfish 鳕鱼					
Tuna 金枪鱼					
Salmon 三文鱼					
LATEX					
Latex 橡胶					
GRASS					
Bermuda Grass 花粉					
Timothy Grass 花粉					
MOULD					
Alternaria 霉菌					
Aspergillus 霉菌					
Cladosporium 霉菌					
Mucor 真菌					
Penicillium 真菌					
Candida 真菌					

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Asean Allergen Screen Personalised Report

Detailed Report

Analyte	Class	Indication	Absorbance
Total IgE 特异性抗体总数	2	Moderate	78 LU

Total IgE is the sum of all circulating non-specific antibodies in your body. Your doctor will usually ask for a specific IgE test on the suspected offending allergens. The measurement of specific IgE in serum is done by drawing the patient blood which is a safer and more convenient test than to perform a skin prick test on the patient itself.

However, a very high total IgE reading may be indicative of a parasitic infection, especially in children.

Inhalant Allergens - House Dust Mites

House dust mites of the Dermatophagoides species are associated with symptoms of asthma and rhinitis. Blomia tropicalis species are common in the tropical and subtropical climates, including Malaysia. The house dust mite is a tiny creature, invisible to the naked eye. It prefers high humidity and warm temperatures higher than 25 degree celcius. Dust mites do not bite or live on the skin. They subsist on dead skin, such as those found on mattresses, pillows and armchairs. The allergenic proteins of dust mites are the decomposition of mites' body and its faeces (faecal pellets). Usually the airborne dust mite debris from bed/mattress or carpets causes an allergic reaction.

Allergen	Class	Indication	Absorbance
Dust mite (D. farinae) 屋尘螨	4	Very High	300 LU
Dust mite (D. pteronyssinus) 屋尘螨	4	Very High	300 LU
Blomia Tropicalis 屋尘螨	3	High	154 LU

ALLERGEN INFORMATION:
Blomia Tropicalis, D.pteronyssinus and D.farinae: Potent indoor dust mite allergens that are responsible for significant dust allergy.

RECOMMENDATION:
Control mite infestation in home environment by using the following example methods:

✔ Encase pillow and mattress with anti-mite control barriers or anti-mite synthetic pyrethroids or nets. Anti-mite nets will eliminate the house dust mites from mattresses and pillows and remain protective over two years. Anti-mite barriers prevent the mites to come out to eat dead human skin.

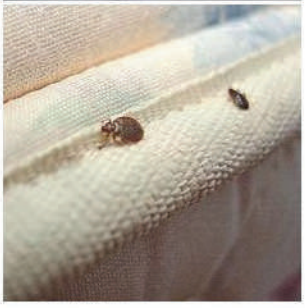
✔ Remove source of dust trapping objects such as furry toys, thick curtains and carpets. Use hard flooring tiles, marbles or wooden flooring.

✔ Use HEPA (special micro filtered) vacuum cleaner to clean the bedrooms. Water based vacuums are also proven to be effective.

✔ Spray acaracide (special formulation which kills house dust mites) on the mattress, pillows, carpets and upholstered furniture every three to six months. Formulation should have the capability to kill the mites and de-nature the residual mites; those offering simple clumping of mites may not be effective.

✔ Wash bed linens at 55 degree celcius weekly. Expose blankets, comforters, carpets and toys to strong sunlight every two weeks. Furry toys can be put into plastic bag and kept overnight in a deep freezer to kill the mites. Repeat every four weeks.

✔ Try to keep house cooler and well ventilated. Use of air-cond is encouraged in bedroom as this stirs up less dust than a fan. Air-conditioning causes lower temperature and lower humidity that is unsuitable for house dust mites.



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Asean Allergen Screen Personalised Report

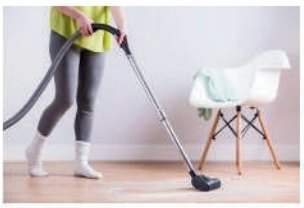
Inhalant Allergens - House Dust

House dust is a complex mixture of allergens such as mold, dander, dust mites and cockroach debris. The airborne particles including fibre from carpets or drapes, food remnants, mould, fungi, animal dander, insect parts, debris from furniture and outdoor dusts (from traffic/construction sites) which float in the air have been shown to be an irritant that bring on allergy or asthmatic symptoms.

Allergen	Class	Indication	Absorbance
House Dust 屋尘	1	Low	62 LU

ALLERGEN INFORMATION:
Housedust: Allergenic debris from dust such as pet dander, mold and dust mite.

RECOMMENDATION:
Although you may have been tested to be allergic to house dust, you may not be 'clinically' allergic and may not exhibit any allergic reactions. Dust control is a worthwhile objective and cleaning the home environment with the help of mechanical devices such as vacuum, HEPA filters, air purifiers, air-conditioner and dehumidifiers is recommended.



Inhalant Allergens - Cockroach

Cockroach is a common pest that causes allergic reaction from its bodily faeces or wastes. It poses a high risk to asthmatic individuals.

Allergen	Class	Indication	Absorbance
Cockroach 蟑螂	0	Negative	8 LU

ALLERGEN INFORMATION:
Cockroach Mix: Dry insect debris is aerosolized as a potent indoor respiratory allergen.

RECOMMENDATION:
Eliminating cockroaches from the home environment is the best remedy. Use chemical baits or other baits to kill these pest; regularly clean dark and unventilated areas where cockroaches may breed.

Pet Allergy

Allergy to either cat or dog is a common cause of asthma and rhinitis. Major components are in the dander (hair) but allergens are also present in saliva and urine.

Allergen	Class	Indication	Absorbance
Cat dander 猫	0	Negative	1 LU
Dog dander 狗	0	Negative	0 LU

ALLERGEN INFORMATION:
Cat: Common allergen, especially with indoor pets. Allergen persists indoors.
Dog: Common allergen but less sensitizing than cat.

RECOMMENDATION:
Avoidance or removal of the pet from the house is advised but if not possible, wash pet weekly with tannic acid or bio-detergent. Rigorous regular cleaning to remove traces of allergen adhered on the floor, walls, bedding and furniture is also recommended.

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Asean Allergen Screen Personalised Report

Food Allergy

Positive IgE is present when patient has been sensitized or introduced to the offending allergens. However, some food allergens may have positive IgE readings due to cross-reactivity of the allergenic proteins. Therefore, some positive IgE results for food allergens may not necessarilly present clinically allergic symptoms.

Allergen	Class	Indication	Absorbance
Banana 香蕉	0	Negative	0 LU
Orange 橙	0	Negative	0 LU
Rice (white) 白米饭	0	Negative	0 LU
Wheat 麦	0	Negative	0 LU
Sesame Seed 芝麻	0	Negative	0 LU
Soybean 豆奶	0	Negative	0 LU
Peanuts 花生	0	Negative	0 LU
Cows milk 牛奶	0	Negative	0 LU
Chocolate 巧克力	0	Negative	0 LU
Egg yolk 蛋黄	0	Negative	2 LU
Egg white 蛋白	0	Negative	0 LU
Chicken 鸡肉	0	Negative	0 LU
Beef 牛肉	0	Negative	0 LU
Clam 蚌类	0	Negative	0 LU
Crab 螃蟹	0	Negative	0 LU
Shrimp 虾	0	Negative	2 LU
Codfish 鳕鱼	0	Negative	0 LU
Tuna 金枪鱼	0	Negative	0 LU
Salmon 三文鱼	0	Negative	0 LU

ALLERGEN INFORMATION:
Banana: May have cross-reactive allergens with natural rubber latex. May be clinically significant.

Orange: Less common food allergen.

Rice (white) & wheat: Patients allergic to grasses may have low cross-reactive levels to food grains. If there are no clinical symptoms when eating the grain, then it can be concluded that the patient is not allergic to the grain.

Sesame Seed: There is an increasing number of reports of sesame seed allergy.

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ALLERGEN INFORMATION (Continued):
Soybean: A legume. Common allergy in young children and is often outgrown.

Peanuts: This legume is highly allergenic and even low levels can be significant.

Milk: Common food allergen especially in young children. Often outgrown by later pre-school years. Not to be confused with lactose intolerance.

Chocolate: Made from the Cacoa seed. Chocolate candies may be nut contaminated.

Egg White: Common food allergen especially in young children. Allergy is often outgrown.

Chicken: May cross-react with hen's egg. Low levels often not clinically significant.

Beef: May cross-react with cow's milk. Low levels often not clinically significant.

Clam: Bivalves (clam,oyster, others) cross react. May cross-react with Crustaceans.

Crab and shrimp: Crustacean allergy is a common food allergy. Cross-reactivity can be expected with other crustaceans such as crab, lobster and crayfish. Crustacean allergy is typically not outgrown.

Codfish, tuna and salmon: Fish allergy is common food allergy. Cross reactivity can exist between fish and is distinct from crustacean allergy. Fish allergy is typically not outgrown.

RECOMMENDATION:
An elimination diet avoiding the offending foods and all food products containing them should be practiced.

GENERAL GUIDELINE ON FOOD ALLERGENS:

✔ Common food allergen in young children are egg white, milk (not to be confused with milk intolerance), soybean (soya milk). Many may outgrow these allergies when becoming older.

✔ For a child who is allergic to cow's milk, soybean milk can be used as substitute (provided patient is not allergic to soybean). Goat milk is not to be used because of known cross reaction to cow's milk formula. In order to substitute both milk and soya milk, consider using partially or extensively hydrolysed milk formulation. Alternatively, an oat based, potato based or rice based formulation may be utilized but be mindful of nutritional requirements.

✔ Peanut is highly allergenic and even low positive reading is highly significant. Avoid nut contaminant foods as well.

✔ Allergy of bivalves (clams) and crustaceans (shrimp, crab) may cross-react, and many patients may not outgrow allergy from these sources.

✔ Fish allergy can have cross reactivity among species, and is distinct from crustacean allergy. Fish allergy is typically not outgrown.

✔ In patients allergic to grass pollens, it may present as low positive allergy to rice and wheat. If there are no clinical symptoms when eating wheat-containing foods, then it can be concluded that patient is not wheat food allergic.

✔ Low levels of beef allergy (cross reactivity with cow's milk) and chicken allergy (cross reactivity with hen's egg) are often not clinically significant.

✔ Less common allergens are egg yolk, orange, banana, wheat, sesame seed and chocolate (possibly due to nut contamination in chocolate candies).

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Latex

Latex is a milky sap produced by rubber trees. The sap is blended with chemicals during manufacturing to give latex its elastic quality. Natural rubber latex is often found in rubber gloves, condoms, balloons, rubber bands, erasers and toys.

Allergen	Class	Indication	Absorbance
Latex 橡胶	0	Negative	0 LU

ALLERGEN INFORMATION:
Latex: Potent sensitizer with symptoms especially with airborne particles found in powder from powdered latex gloves. The allergen is from natural rubber latex.

RECOMMENDATION:
Whenever possible, use non-latex gloves or barrier protection that is not made of natural latex. Patients should be aware of the risk of cross-reacting fruit allergies such as strawberry, avocado, kiwi, banana and chestnut.

Grasses

Timothy Grass and Bermuda Grass pollens are inhalant allergens growing well in warm climates. Bermuda grass is a common grass used for lawns, residential and commercial landscapes, sport fields and golf courses.

Timothy Grass cross-reacts with other grass species like Rye, Orchard Grass, Kentucky Blue Grass, Sweet Vernal, except Bermuda Grass. So a positive result with Timothy Grass may indicate that the patient may be sensitized to other grasses.

Allergen	Class	Indication	Absorbance
Bermuda Grass 花粉	0	Negative	0 LU
Timothy Grass 花粉	0	Negative	0 LU

ALLERGEN INFORMATION:
Bermuda and Timothy Grass: Potent allergens present essentially year round in the tropics. Cross reacts with many grass species. It is found naturally occuring and cultivated as lawns and sports fields.

RECOMMENDATION:
In the tropical climate, it is impossible to live without exposure to the grass pollens. However, good planning on sports and walks, having closed windows at home and in the car and avoidance of garden work may help to reduce risk of exposure.

Other recommendations on grass pollen allergy are:

- ✔ Change and store pollen-containing clothing outside of the bedroom.
- ✔ Do not dry your underclothing or sheets outdoors.
- ✔ Wash or rinse hair before going to bed to prevent pollen falling onto the bed and being inhaled.
- ✔ Avoid additional irritation to your mucous membranes, such as eye cosmetics, smoke, dry-cleaning fumes and cooking vapours. Certain food may trigger symptoms, due to cross-reactivity with grass pollen.

Bermuda Grass 花粉

Timothy Grass 花粉

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Moulds

The moulds (as listed) can grow indoors with enough moisture and nutrients. The fungus thrives in damp area with poor air circulation. The spores of the mould such as Penicillium, Alternaria, Aspergillus, Cladosporium, and Mucor cause allergic reactions of asthma, rhinitis and allergic bronchopulmonary reactions.

Candida albicans which is found on mucosal surfaces (of the body) may cause exacerbation (flare up in symptoms getting worst) in atopic dermatitis.

Positive IgE towards Penicillium should not be confused with drug allergy towards penicillin, although penicillin is made from the mould Penicillium.

Allergen	Class	Indication	Absorbance
Alternaria 霉菌	0	Negative	0 LU
Aspergillus 霉菌	0	Negative	0 LU
Cladosporium 霉菌	0	Negative	0 LU
Mucor 真菌	0	Negative	0 LU
Penicillium 真菌	0	Negative	0 LU
Candida 真菌	0	Negative	0 LU

ALLERGEN INFORMATION:
Alternaria: Allergen is the windborne spore. Highly correlated with allergic asthma.

Aspergillus: Predominantly Indoor allergen. Common black mold.

Cladosporium: Allergen is the windborne mold spore.

Mucor: Damp mold found primarily in soils. Also found on vegetative debris.

Penicillium: Damp mold found primarily in soils. Bluish green mold can be seen on old bread.

Candida: Common yeast in the environment. Occasional reports of sensitivity.

RECOMMENDATION:
Control moulds by keeping environment dry and well ventilated. Use antibacterial liquids such as chlorine bleach or Lysol to wipe walls, ceiling, shower curtains and damp areas. HEPA-air filters can remove airborne mold spores. Avoid having carpets. In outdoor, avoid swimming bath, greenhouse, cut grass and dried leaves and densely vegetated areas. If using humidifiers or dehumidifiers inside home, ensure it is cleaned regularly to avoid growth of moulds and fungus.

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INTERPRETATION NOTES FOR DOCTORS

This report provides semi-quantitative documentation of the presence or absence of individual sensitivities to each of the items on the panel. These test results need to be considered in the context of the symptoms demonstrated by the individual, so that the clinical significance and then subsequent therapeutic approach are soundly determined. This correspondence is designed as an aid in the clinical interpretation of the test results.

Test results are provided in Luminometer™ Units (LU), which are in turn grouped into Class results. Classes are assigned in a range from "Class 0", no measurable specific IgE, to the highest class, "Class 4" which correlates to very high levels of specific IgE. Clinical interpretation of the results should correlate with classification used for skin testing which are similarly classified from 0 to 4.

- **Class 0:** No demonstrable allergen specific IgE. Correlates with no expectation of allergic disease to this allergen.
- **Class 1:** Trivial demonstration of allergen specific IgE. Correlates with little expectation of allergic disease to this allergen.
- **Class 2:** Low levels of allergen specific IgE. Correlates with possible allergic disease in response to exposure to this allergen.
- **Class 3:** Moderate level of allergen specific IgE. Correlates with probable allergic disease in response to exposure to this allergen.
- **Class 4:** High level of allergen specific IgE. Correlates with high probability of allergic disease in response to exposure to this allergen.

The clinical diagnosis of allergic disease requires both the demonstration of allergen specific IgE and allergic symptoms upon exposure to that specific allergen. Negative predictability is very high in that if there is no demonstration of allergen specific IgE, then there should be no allergic disease upon exposure to that specific allergen. Conversely, the positive predictive value of clinical disease in a patient with allergen specific IgE demonstrated increases with the increasing level of the allergen specific IgE. This varies between allergens and between individuals such that the demonstration of allergen specific IgE production needs to be considered in the context of clinical symptoms upon a sensitized individual's exposure to that allergen. Simply stated, even a high allergen specific IgE titer may not predict clinical symptoms in some individuals for some allergens.

Cross reactivity may be seen in allergy diagnostic tests. This is illustrated by the example of an individual with a high positive titer to grass pollens, and a low positive titer to a food grain such as rice or wheat who has no symptoms with ingesting the food but manifests allergic rhinitis when exposed to grass pollen. If however, an individual has a high positive titer to wheat or rice and a low or negative titer to grass pollen, then clinical grain food allergy is more likely. Crustaceans (lobster, crayfish, shrimp, and crab) often manifests cross reactivity during clinical allergy therefore allergic reaction to one allergen in this group predicts allergy to all types of crustaceans. This is not necessarily true for legumes. Peanut allergic individuals often will have some demonstrable IgE to other legumes such as pea or green bean or soy, but may not have clinical symptoms to peanut. Generally, food associated with the highest positive value is more likely to be clinically relevant. Egg allergic individuals may similarly demonstrate low positive titer to chicken just like milk allergic individuals may show lower positive titer to beef. Latex allergy may show cross reactivity with bananas and avocados and kiwi that may be clinically relevant. All results need to be compared with clinical symptoms. If there are no symptoms on ingesting a food, then there is no clinical allergy and the food may be kept in the diet.

Information presented in this report were adapted from "Advice for Physicians Interpreting OPTIGEN® Test Results - ASEAN Panel for Tropical Regions" provided by Vivian Saper, MD and Fellow of the American Academy Of Allergy, Asthma, and Immunology, Medical director of Hitachi Chemical Diagnostics.

IMPORTANCE NOTICE

This lab report is intended to be interpreted by a qualified medical doctor in conjunction with clinical evaluation and other diagnostic procedures. Please seek doctor's opinion before adopting any recommendations presented in this report.

Results validated by Adleen Azman, MSc. Medical Microbiology

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END OF REPORT