

Allergi ökar bland unga i Västra Götaland

NYHET: 2009-09-11

Hälften av tonåringarna i Västra Götalands län har astma, näsbesvär eller eksem. Det visar en ny stor studie som genomförts i samarbete mellan Västra Götalandsregionen och Sahlgrenska akademien. Resultaten, som presenterades på en presskonferens tidigare idag, pekar också på att allergi bland unga har ökat med tio procentenheter de senaste åren.

Studien är genomförd av forskare inom enheten för arbets- och miljömedicin vid Sahlgrenska akademien på uppdrag av Folkhälsokommittén inom Västra Götalandsregionen.

– Detta är en unik undersökning. Det är ovanligt att man gör uppföljningar så långt efter den första undersökningen, och de flesta andra undersökningar när det gäller allergier och astma är gjorda på yngre barn, säger Jonas Brisman, överläkare och projektledare för studien vid enheten för arbets- och miljömedicin vid Sahlgrenska akademien.

I studien svarade över 11 000 sextonåringar i Västra Götalands län på en omfattande enkät om allergi, astma, eksem, matvanor och miljöfaktorer. Svaren har jämförts med en liknande undersökning som genomfördes år 2000. I den nya undersökningen är det betydligt fler ungdomar som anger att någon gång haft rinnsnuva, nysattacker eller andra näsbesvär utan att vara förkylda.

– Vi frågade ungdomarna om de någonsin känt av sådana näsbesvär, och det var betydligt fler som hade det, jämfört med vår undersökning för nio år sedan. Vi vet inte vad ökningen beror på, det behövs mera forskning för att ta reda vad som ligger bakom, säger Jonas Brisman.

Studien visar att hela 49 procent av ungdomarna antingen har läkardiagnostiserad astma, näsbesvär eller atopiskt eksem. Näsbesvär är vanligast, följt av astma och atopiskt eksem. Det är vanligare med allergi bland flickorna än bland pojkarna.

– Vi vill dels försöka ta reda på om det finns samband mellan kost och allergier, dels om det finns skillnader bland olika grupper i samhället när det gäller allergier för att kunna besluta om riktade insatser, säger Karin Engdahl (S), ordförande Folkhälsokommittén, Västra Götalandsregionen.

Studien tyder också på ett samband mellan fisk, smör och mindre astma.

– De som äter mer fisk och smör tenderar att ha lägre förekomst av astma, och det är ett samband man även sett i andra studier. Vi kommer att analysera den här delen av undersökningen närmare i senare rapporter, säger Jonas Brisman.

Att så många ungdomar är drabbade av allergier och att det dessutom skett en ökning kräver att arbetet med allergifrågorna fortsätter, menar Jonas Brisman:

– Eftersom vi ser en ökad allmän känslighet i luftvägarnas slemhinnor och hud behövs åtgärder för att säkra en god inomhusmiljö främst i skolan men på sikt även ungdomarnas framtida arbetsmiljö. Det finns också behov av informationsinsatser till barn, unga och föräldrar, till exempel genom medicinsk studie- och yrkesvägledning i skolan.

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Nya sidor, publicerade 2009 06 25

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Startsidan Sjukdomar och besvär Undersökningar och behandlingar **Hitta rätt i vården** Regler och rättigheter Mina tjänster

Teman / Födoämnesöverkänslighet / Förskolans och skolans ansvar

Förskolans och skolans ansvar

Rektor inom förskola och skola
Rektor ansvarar för att barn och ungdomar i behov av specialkost erbjuds sådan kost. Rektor är också ansvarig för att det finns en fungerande egenkontroll och att personalen har nödvändiga kunskaper om livsmedel. Rektor ska också följa upp eventuella tillbud och se till att det inte finns brister i mathanteringen.

Barnhälsovård
Barnhälsovården arbetar för att främja hälsa och förebygga ohälsa hos barn 0 - 6 år. I arbetet ingår stöd i amning och kostrådgivning.

Förskola
När barnet börjar inom förskolan fyller föräldrarna i ett **formulär** om barnet har en födoämnesallergi/överkänslighet. Formuläret lämnas till rektorn som lämnar det till berörd personal.
Det räcker ofta med föräldrarnas önskemål för att specialkost ska

Sök vårdmottagning
Namn på mottagning
Vilken typ av vård?
Var vill du hitta vård?
Välj kommun
 Lista Karta

Läs mer på webbplatsen
Matallergi hos barn
Allergitutredning

Läs på andra webbplatser
Astma- och allergiförbundet
Livsmedelsverket
Allergi mot mat
Allergi och överkänslighet

Start Temadag hösten 2006 SV ALLERGENBYRÅN Allergen Konsult 09:52

Det räcker ofta med föräldrarnas önskemål för att specialkost ska erbjudas. Ibland behövs intyg från behandlingsansvarig läkare.

Skola och skolhälsovård
Skolhälsovården ansvarar för hälsovård i förskoleklass och skola. När barnen ska börja i förskoleklass får föräldrarna information om skolhälsovården.
Om barnet har behov av specialkost fyller föräldrarna i ett **formulär**, som lämnas till lärare som ger det till skolmåltidspersonal, skolsköterska och annan berörd skolpersonal.
Skolhälsovården kan också behöva ge medicinsk information till övrig skolpersonal.
Ett nytt formulär lämnas vid byte av skola.
Specialkost ska även i skolan kunna erbjudas enligt föräldrarnas begäran. Ibland kan det behövas ett intyg från behandlingsansvarig läkare.
Skolsköterskan samlar in hälsouppgifter om barn i förskoleklass, skolår 4, 7 eller 8 samt i årskurs 1 i gymnasiet. I detta formulär fyller föräldrarna i om eleven har födoämnesallergi samt eventuell behandling.

Föräldrakontakt
För att nå en hög säkerhet behövs ett bra samarbete mellan föräldrar och förskola/ skola. Man måste hela tiden dela med sig av information.
Om ett barn behöver specialkost ska dess vårdnadshavare lämna formuläret: "Elev med behov av specialkost" till läraren. Formuläret går sedan vidare kök och skolhälsovården.

Formulär
Förskolan /skolan behöver ha rutiner så att vårdnadshavare informeras om formuläret. Oftast behövs inget läkarintyg om föräldrarna har lämnat in formuläret. Undantag kan vara om ett barn

Allergi och överkänslighet
Mat i skola och förskola
Vårdguiden
Födoämnesallergi
Allergi hos barn
Allergi

föräldrarna har lämnat in formuläret. Undantag kan vara om ett barn har en mycket komplicerad eller svår födoämnesallergi samt om kökspersonalen bedömer att barnets kost är ofullständig ur näringsynpunkt.
Formulären **Barn/Elev med behov av specialkost (pdf)** samt **Personligt akutschema (pdf)** bör användas och lämnas till förälder som fyller i och lämnar till berörd personal i förskola/skola.
Vid tillbud används formuläret **Rapport av handelse vid en födoämnesreaktion (pdf)**.
Födoämnesreaktionen ska bedömas och förebyggande åtgärder ska vidtas.

Publicerad: 2009-06-25
Kontakta redaktionen: vardredaktion@vgregion.se

Senast uppdaterad: 2009-09-04 Publicerad av: Vårdredaktionen vardredaktion@vgregion.se Om Webbplatsen Om Cookies

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Start Temadag hösten 2006 SV ALLERGENBYRÅN Allergen Konsult 09:54

Gut Worms May Protect Against House-dust Mite Allergy

29 Sep 2009

A study conducted in Vietnam has added further weight to the view that parasitic gut worms, such as hookworm, could help in the prevention and treatment of asthma and other allergies.

Led by Dr Carsten Flohr, a Clinical Scientist from The University of Nottingham, and Dr Luc Nguyen Tuyen from the Khanh Hoa Provincial Health Service in central Vietnam, the study is the largest double-blind placebo controlled clinical trial to date looking at the potential links between hookworm and other gut worm infections and allergic conditions such as asthma and eczema.

Thanks to improved hygiene practices parasitic worms have been mostly eradicated among human populations living in developed countries. However, experts believe that over millions of years of co-evolution worms have found methods to dampen down host immune responses to prolong their own survival inside humans. This relationship seems to have become so intertwined that without gut worms or other parasites, our immune system can become unbalanced, which in turn could contribute to the development of asthma and other allergies. At the same time, it is important to remember that gut parasites can cause severe disease and are a major cause of iron-deficiency anaemia in developing countries.

Dr Flohr's study was conducted in a rural area of central Vietnam where two out of three children have hookworm and other gut parasite infections and where allergies are extremely rare. More than 1,500 schoolchildren aged 6-17 took part.

The team investigated whether repeated tablet treatments to clear the body of gut worms made it more likely for children to develop allergic conditions. While the treatment did not demonstrate an effect on asthma or eczema, the treated children had a significantly increased risk of having a positive allergy skin test to house-dust mites and cockroach. This suggests that gut worms have the potential to tone down human immune responses and so further research is now needed to identify precisely how gut worm infection can prevent allergic sensitisation.

Dr Carsten Flohr of The University of Nottingham adds: "The next step is to understand exactly how and when gut parasites programme the human immune system in a way that protects against allergic sensitisation, and for such studies, follow-up from birth will be essential."

As up to 80 per cent of people with asthma also have allergies to house-dust mites and other environmental allergens, additional research in this area could aid the creation of new treatments that work in the same way as gut parasites, by dampening down or rebalancing the immune system so that the body does not respond to allergens and trigger asthma attacks.

Dr Elaine Vickers, Research Relations Manager at Asthma UK, says: "Asthma affects more than five million people in the UK, with a person being admitted to hospital every seven minutes following an asthma attack. The prospects of further studies in this area are therefore very exciting as we could see groundbreaking treatments for asthma and other allergies developed as a result. It's now vital that we see more funding being invested in this important area of research, so that we can increase our understanding of the link between gut parasites and the development of allergies from birth."

Co-applicants on the Asthma UK research grant that funded the work were Professors John Britton, David Pritchard, and Hywel Williams. The Nottingham team collaborated with researchers from the Wellcome Trust Major Overseas Programme at the Oxford University Clinical Research Unit Hospital for Tropical Diseases in Ho Chi Minh City, where Dr Flohr was based for his work. Additional funding was received through the Bastow Award from the Special Trustees for Nottingham University Hospitals. Dr Flohr's salary was provided by University College, University of Oxford, for two years and by the Wellcome Trust UK for a further nine months.

Reducing anaphylaxis fatalities

Scientists have made a breakthrough which could reduce the risk of allergic individuals suffering serious allergic reactions to food. A team from Glasgow University identified a molecule which amplifies allergic reactions. They also developed a biological agent which they believe will reduce the allergic symptoms. It is hoped the discovery could reduce the incidence of fatal anaphylactic shock cases. The novel cytokine (immune hormone), known as IL-33, was found to play a key role in the development of anaphylaxis by increasing the inflammation experienced. Without the IL-33 molecule, the scientists believe the allergic reaction experienced would be far less severe, greatly reducing the risk of death. Based on this assumption, the team developed a means to intervene with the IL-33 molecule and were able to successfully demonstrate using a mouse model that by blocking the IL-33 molecule, the severity of the allergic reaction was reduced. This approach does not stop the allergic reaction altogether but blocks the amplification of the reaction triggered by IL-33, thereby reducing the severity.

Reference: Pushparaj et al. 2009 Proceedings of the National Association of Sciences of the USA. Vol 106 (24) pp 9773-9778.

Identification of the allergen Cro s 2, a profilin, from Saffron (*Crocus sativus*)

Saffron contains a profilin that may cause allergic reactions in atopic subjects. The aim of this study was to describe the cloning, expression and purification of saffron profilin from pollen. A 34kDa- recombinant saffron profilin, Cro s 2, as a fusion protein was purified. Immunoblotting tested with the sera of allergic patients showed a specific reaction with the recombinant Cro s 2 band. The sequence of Cro s 2 showed a high degree of identity and similarity to other plant profilins and the recombinant saffron profilin, Cro s 2, may be used for target-specific diagnosis and structural analyses and investigation of cross reactivity of Cro s 2 with other plant profilins.

*Ref. Cloning and Expression of the Allergen Cro s 2 Profilin from Saffron (*Crocus sativus*).*

Varasteh AR, Moghadam M, Vahedi F, Kermani T, Sankian M.

Allergol Int 2009 Jul 25;58(3):429-435

The prevalence of sensitization to lupin flour in France and Belgium

A prospective study carried out by members of the Allergy Vigilance Network, using prick-tests with a commercial lupin flour extract in patients with various allergic symptoms. Over a two-month period, 88 French and Belgian allergists tested 5,366 patients: 2,680 children and 2,686 adults aged over 16 years. Of the 2,680 children, 11.15% presented with peanut allergy. The frequency of cross-reactivity with lupin was 17.1% for patients with peanut allergy, 2.5% for children with current atopic disease and 1.7% for healthy children with latent atopy. In the 2,686 adults, peanut allergy was diagnosed in 1.86% of patients with cross-reactivity to lupin in 14.6%. Sensitization to lupin was detected in 3.7% of patients with current atopic disease and in 1.8% of those with latent atopy.

*Ref: Gayraud J, Mairesse M, Fontaine JF, Thillay A, Leduc V, Rance F, Parisot L, Moneret-Vautrin DA.
Eur Ann Allergy Clin Immunol 2009 Feb;41(1):17-22*

Identification of two pistachio allergens, Pis v 1 and Pis v 2, belonging to the 2S albumin and 11S globulin family

This study attempted to identify pistachio allergens and to clone the encoding genes, utilizing sera from 28 pistachio-allergic individuals. Nineteen out of 28 patients (68%) showed IgE binding to a 7 kDa protein fraction, while 14 (50%) showed specific IgE to a 32 kDa protein fraction. These proteins were shown to be homologues to the cashew nut allergens Ana o 3 and Ana o 2, respectively. Two new allergenic pistachio proteins were identified. Recombinant proteins were recognized by six out of six selected patients. The new allergens were named Pis v 1 and Pis v 2. The novel allergens in pistachio, Pis v 1 and Pis v 2, belong to 2S albumin and 11S globulin family, respectively.

*Ref: Ahn K, Bardina L, Grishina G, Beyer K, Sampson HA.
Clin Exp Allergy 2009 Jun;39(6):926-934*

Occupational asthma caused by octopus particles

A 22-year-old female presented with symptoms of rhinoconjunctivitis as well as episodes of breathlessness and persistent cough accompanied by wheezing. For 2 years, she had been working in a canning fish and shellfish factory where she was directly handling and cooking seafood. Symptoms worsened during workdays, but over the weekends, she noticed improvement. The symptoms appeared 10–20 min after the time she started handling octopus and even when other colleagues cut it nearby. She tolerated handling other seafood.

Skin prick tests for raw octopus: 20 mm, cooked octopus: 10 mm, raw squid: 6 mm, raw shrimp: 10 mm, cat dander 8 mm. Skin prick test were negative for other seafood and other common allergens. Total IgE: 176 ku/l, specific IgE for cat epithelium: 9.36 ku/l, squid: 0.51 ku/l, shrimp: 1.45 ku/l, tropomyosin: 0.84 ku/l, octopus: 24.60 ku/l.

The patient was monitored while cutting cooked octopus for 3 h with no forced expiratory volume in 1 s (FEV1) changes noted. Bronchial challenge test with an extract of octopus with undiluted concentration of octopus, resulted in a FEV1 fall of more than 20% with no late response.

Octopus extract revealed protein bands between 10 and 50 kDa. Immunoblot showed IgE-binding bands of 43 and 32 kDa that could correspond to tropomyosin (38–40 kDa) as the responsible allergen for the sensitization. In other published cases, a band of 38 kDa in a case of squid allergy, bands of 38 and 49 kDa in abalone allergy (bivalve mollusc) and bands of 35 and 39 kDa in scallops allergy have been detected

*Ref. Rosado A, Tejedor MA, Benito C, Cardenas R, Gonzalez-Mancebo E.
Allergy 2009 Jul;64(7):1101-1102*

Major increase in allergic sensitization in school children from 1996 to 2006 in northern Sweden

This study compared the trends in prevalence of allergic sensitization and associated risk factors in Swedish children. Two cohorts of children (age 7-8 years) were invited for skin prick tests (SPTs) 10 years apart, 1996 and 2006. The methods were identical, and 10 common airborne allergens were used. The prevalence of any positive SPT increased from 21% in 1996 to 30% in 2006 ($P < .001$). The pattern of sensitization remained similar, and sensitization to cat was most common both years, 13% and 19%, respectively. Sensitization to mites and mold was uncommon in both surveys. However, although the prevalence of allergic sensitization increased significantly from 1996 to 2006, there was no increase in clinical symptoms.

*Ref. Ronmark E, Bjerg A, Perzanowski M, Platts-Mills T, Lundback B.
J Allergy Clin Immunol 2009 Jul 2;*

The prevalence of food hypersensitivity in young adults

This European study estimated the prevalence of food hypersensitivity to the most common allergenic foods in an unselected population of young adults. A cohort of 1272 young adults 22 years of age by questionnaire, skin prick test (SPT) and histamin release (HR) followed by oral challenge to the most common allergenic foods. FHS was divided into primary and secondary FHS. Primary FHS was defined as being independent of pollen sensitization, whereas secondary FHS was defined as reactions to pollen related fruits and vegetables in pollen allergic patients. Primary FHS was reported by 19.6% and secondary FHS by 16.7% of the participants. Confirmed primary FHS by oral challenge was 1.7% [1.1% - 2.95%]. In primary FHS, the most common allergenic food was peanut (0.6%) followed by additives (0.5%), shrimp (0.2%), codfish (0.1%), cow's milk (0.1%), octopus (0.1%) and soy (0.1%).

In secondary FHS, kiwi allergy was reported by 7.8% of the participants followed by hazelnut (6.6%), pineapple (4.4%), apple (4.3%), orange (4.2%), tomato (3.8%), peach (3.0%) and brazil nut (2.7%). This study found a 1.7% [1.1% - 2.95%] prevalence of primary FHS confirmed by oral challenge to the most common allergenic foods in an unselected population of young adults

*Ref. Osterballe M, Mortz CG, Hansen TK, Andersen KE, Bindslev-Jensen C.
Pediatr Allergy Immunol 2009 Jul 7;*

Western lifestyle and increased prevalence of atopic diseases: Papua New Guinea

The results of this study suggest that so-called Western lifestyle may contribute to the development of atopic diseases. The more easily accessible and thus more "modern" and westernized coastal villages showed a significantly higher prevalence of habitants suffering from atopic diseases than a traditional mountain village (6.8% vs 0.0%). A total of 4.4% (11/248) of the examined islanders suffered from an atopic disease.

*Ref. Herbert, Oliver Ch.; Barnetson, Ross StC.; Weninger, Wolfgang; Krämer, Ursula; Behrendt, Heidrun; Ring, Johannes
WAO Journal 2009;2(7):130-137*

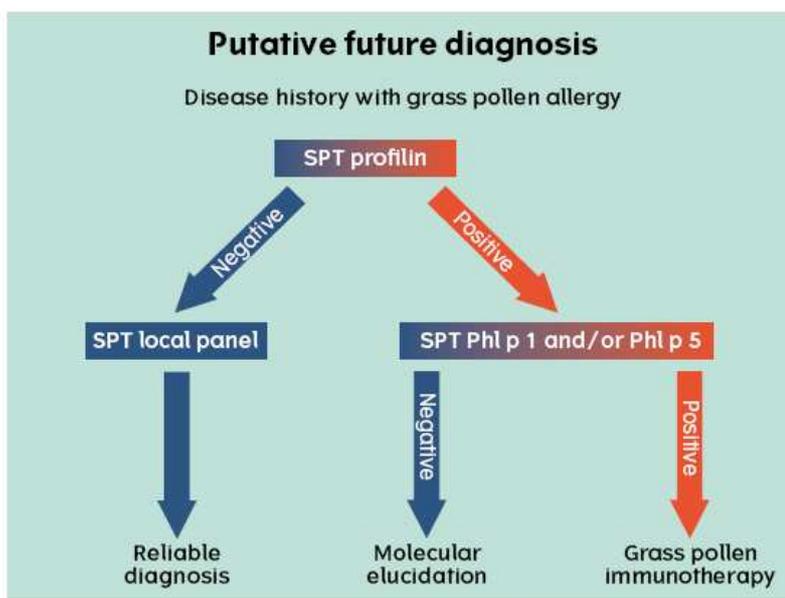
Molecular allergology

Not all allergens are equal. Some are major and some are minor. Sensitisation to certain allergens leads to extensive cross-reactivity, complicating diagnosis. A recent publication from Spain indicates that geographical differences in exposure levels may determine differences in molecular sensitisation patterns and resulting in cross-reactivity. Identifying the primary source of sensitisation is important for the selection of vaccine for immunotherapy.

Allergic patients are diverse in many aspects including disease manifestation and severity as well as the allergen source to which they react. A core competence in allergology is the disentanglement of true sensitisation sources for the optimal selection of specific vaccines for allergen immunotherapy. Difficult cases arise when patients react to a multitude of pollens especially in areas where dominating pollen seasons overlap. In such cases, molecular allergology may provide the solution in the future.

Profilin cross-reactivity

In general, patients are sensitised to the major allergen of the primary sensitising source. Thus, patients sensitised to olive pollen react to the major allergen, Ole e 1. For grass pollen, there are two major allergens, and patients allergic to grass pollen react to group 1 or group 5 or both. Some patients allergic to grass pollen also react to profilin, i.e. Phl p 12. This may lead to extensive cross-reactivity, as profilin



homologues are present in many pollens and plant foods. However, for the sources to which the patients react because of profilin cross-reactivity, there will be no sensitisation to the major allergen. In most cases, reactivity to profilin is a sign of grass sensitisation. A molecular approach based on testing for the major allergens as well as the known 'pan-allergens' responsible for extensive cross-reactivity, therefore, would reveal both the primary sensitisation source, and thereby the vaccine in choice for immunotherapy, as well as the explanation for extensive cross-reactivity.

Exposure level determines sensitisation pattern

An interesting aspect of the Spanish study is that exposure levels may determine differences in the molecular sensitisation patterns. Thus, patients living in areas with low or moderate exposure to olive pollen exclusively or primarily react to the major allergen, Ole e 1. In areas with extremely high exposure levels reaching peak seasonal pollen counts of 10,000 grains per m³ or more, patients are generally sensitised to several olive allergens and minor allergens tend to behave as major allergens in the sense that patients may be sensitised to the minor allergen without concomitant sensitisation to the major allergen.

Doctors practicing in areas with extremely high exposure levels are obviously aware of this. The altered sensi-

sation patterns are not likely to present practical problems in the diagnosis of allergic patients. However, in the future molecular allergology may be developed into a useful tool for the diagnosis of difficult patients presenting with multiple sensitisations to pollen and plant food allergens. Identifying the true source of sensitisation is essential for the selection of the optimal vaccine for immunotherapy, and thus, for providing the best treatment for your patient.

Reference:

Barber D, de la Torre F, Feo F, Florido F, Guardia P, Moreno C, Quirarte J, Lombardero M, Villalba M, Salcedo G, Rodríguez R. Understanding patient sensitization profiles in complex pollen areas: a molecular epidemiological study. *Allergy* 63: 1550-1558, 2008.

Inside Allergy and Science is a newsletter published by ALK.

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Utdrag ur ALK Abellos nyhetsbrev
"Fight the Cause"
mars 2008, issue 2

Major Allergen Update

► What is a Major Allergen and why is this concept discussed in the Immunotherapy Practice Parameters?

Allergenic extracts are complex mixtures prepared from pollen and other natural source materials. Within these complex mixtures of carbohydrates, lipids, and proteins there is a small number of proteins that are responsible for inducing allergies and triggering allergic responses such as rhinitis and asthma.

But all of these allergens are not equal. It turns out that one or two proteins are responsible for the major portion of sensitization in a large percentage of patients who are sensitive to the particular pollen or other allergen. These proteins are termed "major allergens".

In addition to their role in inducing sensitization and symptoms, major allergens have been found to be useful in standardizing allergenic extracts, determining the presence and level of allergens in the environment, and as a way to define the dosing used in clinical trials of Immunotherapy.

In 2007, Dr. Ronald van Ree from The Netherlands published a very useful review of major allergens in the *Journal of Allergy and Clinical Immunology*. In that paper, Dr. van Ree pointed out many reasons for the use of major allergen data in standardizing allergenic extracts. The author proposes that major allergen measurement is objective and may be less prone to variability than biological methods such as titrated skin tests in defining potency.

For the determination of indoor allergen loads, major allergen measurements are widely accepted as a good indicator for a wide range of allergens in the indoor environment.

Every commercial allergenic extract contains major allergens. The manufacturers of extracts throughout Europe are providing major allergen values for their products even when they use other potency units to label their products. For example, the French allergen company, Stallergenes, labels products in IR units, but also report major allergen values in publications. Similarly, ALK-Abelló in Europe labels products in SQ Units but all publications on clinical trials also report dosing in terms of major allergen.

This latter point is important to many physicians. The reporting of doses in terms of major allergens allows physicians from around the world to read an Immunotherapy study and understand the dosing in terms of their local products.

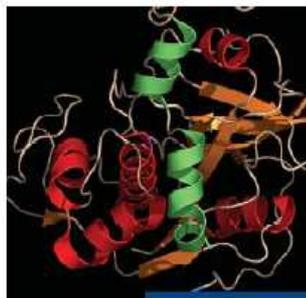
What about the methods used to measure major allergens? There is an appropriate concern that the methods used to measure major allergens must be properly validated as any good analytical method must be. In van Ree's article he discusses the CREATE project which is an international program to define analytical standards for major allergen analysis and to develop a framework for assuring that the methods used are validated. ALK-Abelló scientists have been deeply involved in the CREATE project and we look forward to the further development and refinement of methods.

Reference: van Ree R; Indoor allergens: Relevance of major allergen measurements and standardization. *J Allergy Clin Immunol* 2007;119:270-7.

Allergen immunotherapy: a practice parameter. *American Academy of Allergy, Asthma and Immunology. Ann Allergy Asthma Immunol* 2003 Jan;90(1 Suppl 1):1-40.



Bet v 1:
Birch Major Allergen
3-D Structure by X-Ray Crystallography



Der p 2:
House Dust Mite Major Allergen
3-D Structure by X-Ray Crystallography