

Allergy Specialists

# **Knowing The Connection**

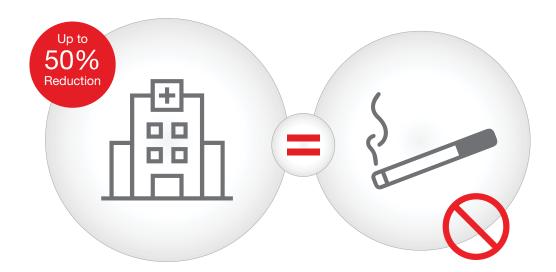
Molecular Allergology: Getting it right the first time with Component-resolved diagnostics (CRD)

## **Knowing the Connection**

### A better outcome starts with an improved diagnosis



Controlling allergic rhinitis (AR) improves asthma outcome

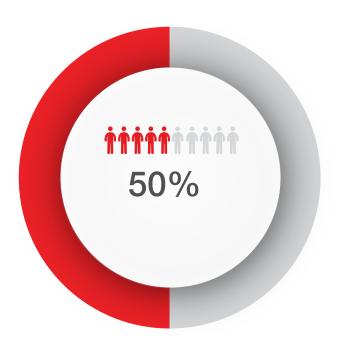


- Patients with AR have a threefold greater risk of developing asthma<sup>6</sup>
- Uncontrolled moderate to severe AR affects asthma control<sup>6</sup>
- Rhinitis control can reduce hospital visits up to 50%<sup>6</sup>
- Reducing AR symptoms has about the same impact as smoking cessation on asthma outcome<sup>18</sup>

# Help get diagnosis right first time when selecting Allergen specific Immunotherapy (AIT)

In more than 50% of patients in a study cohort there was a discrepancy in indication of allergen specific immunotherapy (AIT) before and after molecular diagnosis results<sup>20</sup>

- Most patients are sensitized to two or more allergens<sup>9</sup>
- Examples of eliciting pollen: grass, cypress, plane, olive<sup>20</sup>
- Identifying the disease-causing allergen by performing only whole allergen tests may be difficult or even impossible<sup>20</sup>
- Identification of disease-eliciting allergen is a prerequisite for accurate prescription of treatment<sup>20</sup>

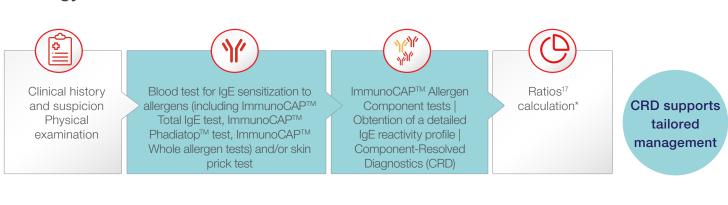




# A better outcome starts with an improved diagnosis

Use ImmunoCAP<sup>(TM)</sup> Total IgE and Specific IgE tests with both Whole Allergens and Allergen Components to improve diagnosis before management<sup>17</sup>

Up to a third of the general population get respiratory symptoms during the spring allergy season<sup>24,29</sup>



<sup>\*</sup> Proposal from latest scientific insight (2020).



# Get clarity on multi-sensitized patients with CRD

Most patients are sensitized to two or more allergens9

#### Together with clinical history Component-resolved diagnostics (CRD) can:

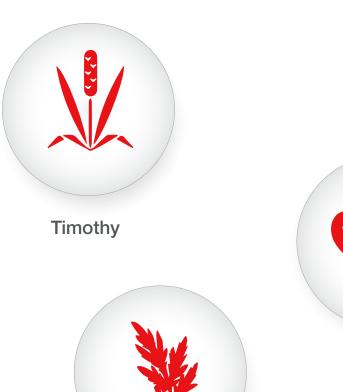
- allow you to understand primary sensitization and cross reaction between different allergen sources, leading to an early and reliable diagnosis
- help you design allergen exposure reduction plans in order to keep your patients below the symptom threshold<sup>2,11</sup>
- enable tailored, allergen specific immunotherapy (AIT), having an impact in the disease development<sup>4</sup>



## Eliminate doubt

Use specific IgE blood tests as an aid for definitive allergy diagnosis and improve asthma control

Is it a species-specific sensitization or it is a cross-reactivity?



Mugwort

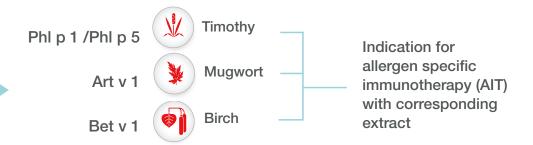


**Birch** 

# Get the full picture on multi-sensitization<sup>29</sup>

If only cross-reactive markers are identified further investigation is needed

Specific allergen components



Profilins (Bet v 2, Phl p 12) and Polcalcines (Bet v 4, Phl p 7) from Birch and Timothy grass can be used as marker pan-allergens for almost all pollen due to structural similarity.<sup>1</sup>

Cross-reactive allergen components

Profilin Polcalcin CCD

Phl p 12 Phl p 7 MUXF3

Bet v 2 Bet v 4



### **Multi-Sensitization**

# Get it right first time with ImmunoCAP™ Allergen Component tests

#### A refined diagnosis at the molecular level can support you to have:

- Improved inclusion of patients for immunotherapy<sup>4,20</sup>
- Improved selection of appropriate treatment<sup>4,20</sup>
- Better outcome and patient compliance
- Improved cost efficacy and patient well-being



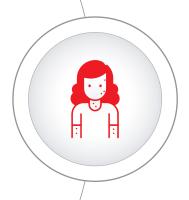
# An ecosystem to prevent disease progression

Without a comprehensive diagnosis, some patients might be exposed to greater health risks when dealing with seasonal allergies<sup>5</sup>



#### Clinicians

For better asthma control, remember the link to AR. Early IgE blood testing enables a better outcome for your patients so you can make the **right** diagnosis the **first** time<sup>5,21</sup>



#### **Patients**

Improve their quality of life with an accurate diagnosis, appropriate treatment and prevention of disease progression



#### Laboratories

Using a flexible end-to-end single system solution with a clinically relevant portfolio empowers clinicians to more accurately diagnose and manage patients accordingly

# Get the full picture with CRD before allergen specific immunotherapy (AIT)<sup>4</sup>

Molecular Allergology - making the connection to what you need to know

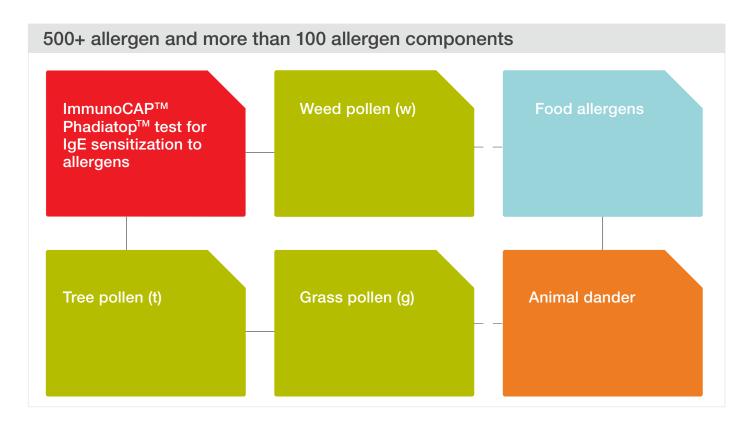
Precisely identifying the allergenic molecule responsible for immunoglobulin E (IgE) mediated allergies substantially improves the diagnosis and management of allergic patients4,20 Molecularly identifying the sensitizing allergens enables tailored care in multi-sensitized patients (including AIT) during spring allergy season<sup>20</sup> In more than 50% of patients in a study cohort there was a disagreement in indication of Allergen ImmunoTherapy (AIT) before and after molecular diagnosis results<sup>20</sup>

# Single system solution

# Clinically relevant portfolio helps you get it right the first time

#### ImmunoCAP™ tests provides you with true quantitative results to:

- Correctly identify the allergy triggers<sup>4,20,28</sup>
- Assess the risk of quality of life impact from mild versus severe allergic reactions<sup>4,20</sup>
- Help define a tailored management plan including avoidance recommendations<sup>4,20</sup>
- Help explain symptoms due to cross reactivity in multi sensitized patients<sup>4,20</sup>
- Help confirm patients who would benefit from allergen specific immunotherapy (AIT)<sup>4,20</sup>



The same IgE detection method should be used for diagnosis treatment and follow up8

## Did you make the connection?

Most patients are sensitized to two or more allergens9

With CRD you can be confident to start allergen specific immunotherapy (AIT) by:

- Accurately identifying allergen(s)
- Eliminating doubt due to cross reactivity
- Establishing full picture diagnosis
- Tailoring plans to keep your patients below the symptom threshold



### References

- 1 Akdis CA, Agache I, (Eds.). Global atlas of allergy, 2014. Zurich: European Academy of Allergy and Clinical Immunology; 166-167.
- 2 Allen-Ramey F, et al. J Am Board Fam Pract 2005;18:434–9.;
- 3 Allergic Rhinitis in Childhood and the New EUFOREA Algorithm. Allergy 2:706589. doi: 10.3389/falgy.2021.706589
- 4 Barber, D, Diaz-Perales, A, Escribese, MM, et al. Molecular allergology and its impact in specific allergy diagnosis and therapy. Allergy. 2021; 76: 3642–3658
- 5 Borres MP. Allergic rhinitis: more than just a stuffy nose. Acta Paediatr. 2009;98(7):1088-1092. doi:10.1111/j.1651-2227.2009.01304.x
- 6 Bousquet J, Khaltaev N, Cruz AA, et al. Allergic Rhinitis and its Impact on Asthma (ARIA) 2008 update (in collaboration with the World Health Organization, GA(2)LEN and AllerGen). Allergy. 2008;63 Suppl 86:8-160. doi:10.1111/j.1398-9995.2007.01620.x
- 7 Carosso A, et al.Int Arch Allergy Immunol. 2007; 142:230-8
- 8 Casas et al. Advances in Laboratory 2020; 1(4). VALIDA study
- 9 Ciprandi G,et al. Eur Ann Allergy Clin Immunol. 2008; 40:77-83.15
- 10 Duran-TauleriaE, et al. Allergy. 2004; 59 Suppl 78:35-41
- 11 Eggleston PA. Immunol Allergy Clin North Am 2003;23:533-47
- 12 Fiocchi A, et al. Ann Allergy Asthma Immunol. 2004 Oct; 93(4): 328-33
- 13 Halvorsen R, et al. Int J Pediatr. 2009; 460737
- 14 Ito K, Tagami K. Distinct differences in analytical performance of two commercially available assays for specific IgE to egg white and house dust mite allergens. Clin Mol Allergy. 2021;19(1):13. Published 2021 Aug 2. doi:10.1186/s12948-021-00151-y)
- 15 Niggemann B,et al.PediatrAllergy Immunol. 2008;19:325-31
- 16 Paganelli R et al. Allergy. 1998; 53(8):763-8
- 17 Pascal, M, Moreno, C, Dávila, I, et al. Clin Transl Allergy. 2021;e12052. doi:10.100
- 18 Price, D., Scadding, G., Ryan, D. et al. The hidden burden of adult allergic rhinitis: UK healthcare resource utilisation survey. Clin Transl Allergy 5, 39 (2015)
- 19 Roberts, G, Xatzipsalti, M, Borrego, LM, Custovic, A, Halken, S, Hellings, PW, Papadopoulos, NG, Rotiroti, G, Scadding, G, Timmermans, F, Valovirta, E. Paediatric rhinitis: position paper of the European Academy of Allergy and Clinical Immunology. Allergy 2013; 68: 1102–1116
- 20 Sastre J, et al. Allergy 2012, 67:709-711
- 21 Stewart, M.G. (2008), Identification and management of undiagnosed and undertreated allergic rhinitis in adults and children. Clinical & Experimental Allergy, 38: 751-760
- 22 Szecsi P, B, Stender S: Comparison of Immunoglobulin E Measurements on IMMULITE and ImmunoCAP in Samples Consisting of Allergen-Specific Mouse-Human Chimeric Monoclonal Antibodies towards Allergen Extracts and Four Recombinant Allergens. Int Arch Allergy Immunol 2013;162:131-134. doi: 10.1159/000353276
- 23 Szeinbach SL, Williams B, Muntendam P, O'Connor RD. Identification of allergic disease among users of antihistamines. J Manag Care Pharm. 2004;10(3):234-238. doi:10.18553/jmcp.2004.10.3.234
- 24 Ten-year trends and prevalence of asthma, allergic rhinitis, and atopic dermatitis among the Korean population, 2008–2017 Clin Exp Pediatr. 2020;63(7):278-283. Published online January 29, 2020 DOI: https://doi.org/10.3345/cep.2019.01291
- 25 Wickman M. Allergy 2005;60 (Suppl 79): 14-8
- 26 Williams PB, et al. Ann Allergy Asthma Immunol. 2003 Jul; 91(1): 26-33
- 27 Wood RA. Accuracy of IgE antibody laboratory result. Ann Allergy Asthma Immunol 2007;99:34-41
- 28 Yamamoto-Hanada et al. World Allergy Organization Journal (2020) 13:100105 http://doi.org/10.1016/j. waojou.2020.100105
- 29 Adapted from EAACI MAUG 2016, Page 80



### Additional information

#### \*Product list:

ImmunoCAP™ Allergen g205, Allergen component rPhI p 1 Timothy; ImmunoCAP™ Allergen g206, Allergen component rPhI p 2 Timothy; ImmunoCAP™ Allergen g208, Allergen component nPhI p 4 Timothy; ImmunoCAP™ Allergen g215, Allergen component rPhI p 5b Timothy; ImmunoCAP™ Allergen g209, Allergen component rPhI p 6 Timothy; ImmunoCAP™ Allergen g211, Allergen component rPhI p 11 Timothy; ImmunoCAP™ Allergen g210, Allergen component rPhI p 7 Timothy; ImmunoCAP™ Allergen g212, Allergen component rPhI p 12 Timothy; ImmunoCAP™ Allergen t215, Allergen component rBet v 1 Birch; ImmunoCAP™ Allergen t216, Allergen component rBet v 2 Birch; ImmunoCAP™ Allergen t220, Allergen component rBet v 4 Birch; ImmunoCAP™ Allergen w231, Allergen component nArt v 1 Mugwort



Learn more at thermofisher.com/spring-allergy-season-2022

For Research Use Only. Not for use in diagnostic procedures. © 2022 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. 258051.AL.EU.



<sup>\*\*</sup> Promotion Terms go here if they fit on a single line. Amendi aut expelit, ipis aciminci dolorehenim expel eosto doles simod maio. Itate proribus si tem inum