



hycor
Improving Lives

Pinpoint Your **TRUE** Allergy Triggers



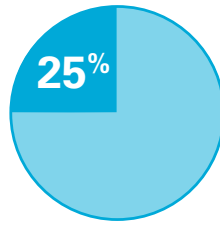
CROSS-REACTIVE CARBOHYDRATE DETERMINANTS (CCD) INTERFERENCE

Getting the right answer matters to make reliable clinical decisions.
The new standard to limit the impact of interference!

 **Noveos**

How reliable is your allergy test result when your assay design is affected by CCD's?

The prevalence of CCD reactivity has been described in as much as 25% of the general population.¹



Depending on the assay design, the incidence of false positive results to anti-CCD's is more common than laboratories expect and do have a clinical relevance.

CCD false positive results are not acceptable! Clinical decisions for patients are impacted.



→ CCD reactivity is NOT just to proteins in allergen extracts.²



→ CCD also reacts with residual N-linked glycans in assays using a cellulose matrix as a solid phase.²



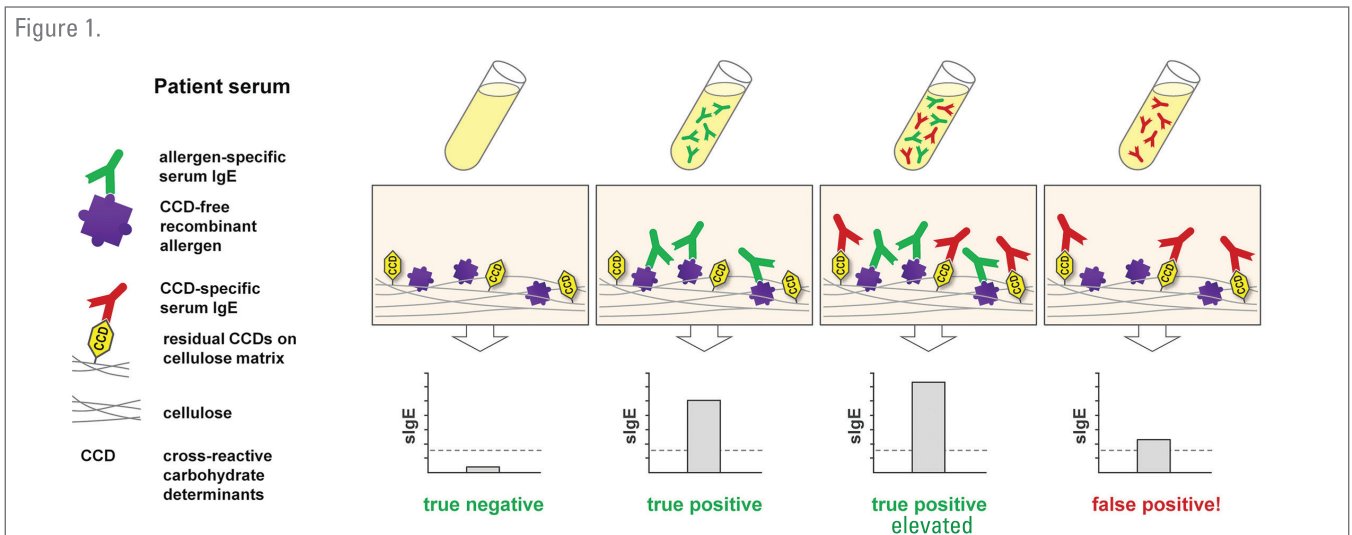
→ Cellulose used as a solid-phase allergen carrier can contain varying amounts of CCDs sufficient to cause false-positive test results.²

Positive results by a single method, negative by all others

Figure 1: The ImmunoCAP cellulose solid-phase allergen carrier is recognized by anti-CCD antibodies in many patients at concentrations high enough to cause significant non-specific binding which triggers false-positive results.

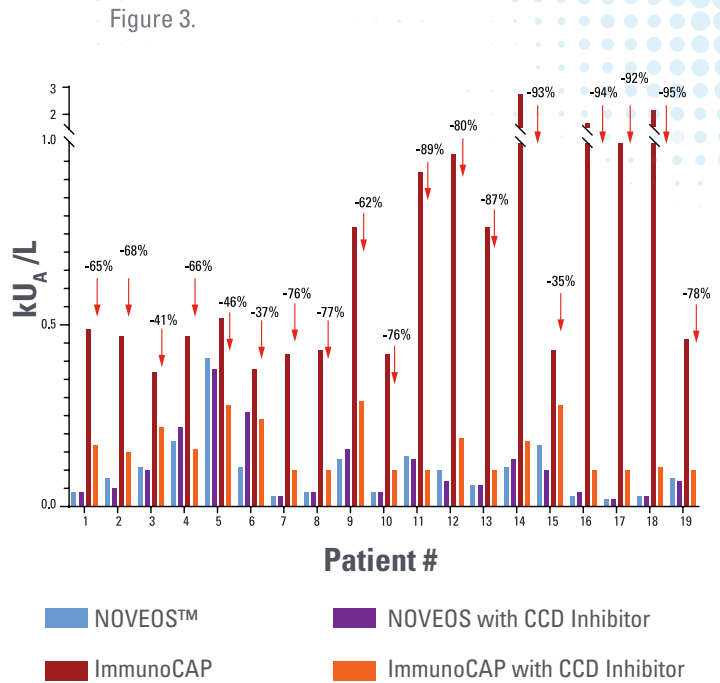
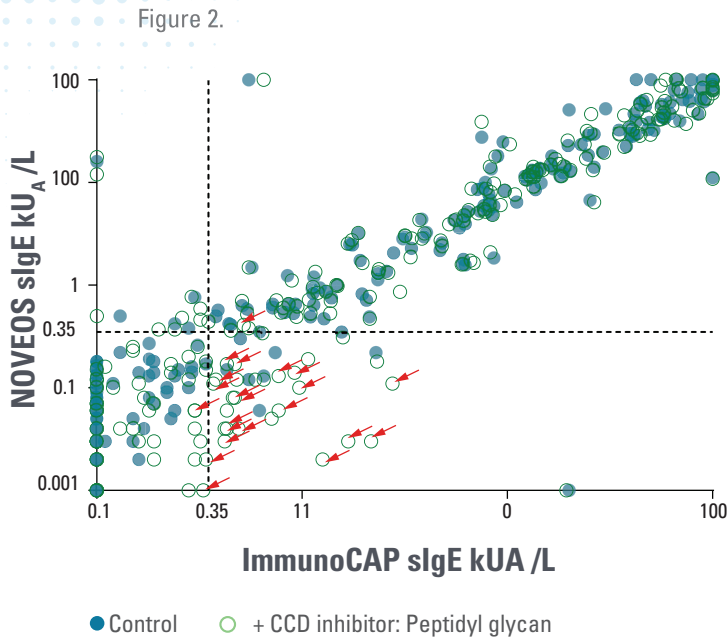
A patient with CCD reactivity will exhibit abnormally high values for allergies that they have (column 3) and false positive values for allergies that they do not have (column 4).²

Figure 1.



ImmunoCAP Solid-phase CCD False Positives Results

Despite using CCD-Free Allergen Components



WHOLE ALLERGEN	COMPONENT
F013	Ara h 1, Ara h 2, Ara h 3, Ara h 8
T003	Bet v 1, Bet v 2
G006	Phl p 1

	NUMBER	(%)
Total patients tested	236	100%
Number with CCD reactivity	110	47%
Number CCD false positive (cutoff 0.35 kU/L)	19	8%

Figure 2: Population of 236 samples tested on the Phadia and NOVEOS systems* using CCD-free components and in the presence (filled circles) or absence (open circles) of CCD inhibitors. Red arrows designate false positive results for the Phadia system. The data suggests that samples near the cutoff of 0.35 are affected and generate false positive values that can be misleading.

Figure 3: All samples were tested using CCD-free peanut components and nineteen (19) of the ImmunoCAP positive samples exhibited a change in reactivity in the presence of a CCD inhibitor due to reactivity to the ImmunoCAP solid phase rather than any interaction with the proteins themselves, thereby creating false positive results³.

* NOVEOS Capture Reagents F013, T003 and G006 and components Ara h 1, Ara h 2, Ara h 3, Ara h 8, Bet v 1, Bet v 2, Phl p 1 are for Investigational Use Only pending FDA 510(k) clearance. The performance characteristics of these products have not yet been established.



No Solid-phase Related CCD Interference with NOVEOS IgE Paramagnetic Microparticles³



**The NEW STANDARD in allergy testing,
solving shortcomings of current technologies.**



REFERENCES

1. Mari A. IgE to Cross-Reactive Carbohydrate Determinants: Analysis of the Distribution and Appraisal of the in vivo and in vitro Reactivity. *Int Arch Allergy Immunol.* 2002;129:286-295.
2. Hemmer W, Altmann F, Holzweber F, et al. ImmunoCAP cellulose displays cross-reactive carbohydrate determinant (CCD) epitopes and can cause false-positive test results in patients with high anti-CCD IgE antibody levels. *J Allergy Clin Immunol.* 2018 Jan;141(1):372-381. DOI: 10.1016/j.jaci.2017.04.028.
3. Data on File. NOVEOSTM (HYCOR); ImmunoCAP (Thermo Fisher Scientific)

Learn More! Schedule a Demo!

Improving the health, well-being and quality of life of individuals with allergic conditions.

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