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# IMMULITE 2000/XPi 3gAllergy Specific IgE

Yellow jacket (*Vespula vulgaris*) venom component: antigen 5, rVes v 5 (A670L2)

## Allergen Background

Three known allergens of yellow jacket (*Vespula vulgaris*) venom are antigen 5, hyaluronidase, and phospholipase. Ves v 5 (antigen 5) is a major allergenic component of yellow jacket venom and contains 204 amino acid residues. Cross-reactive carbohydrate determinants (CCD's) can cause cross-reactivity between native versions of Api m 1 and Ves v 5. Most patients allergic to stinging insects often exhibit multiple reactions to more than one vespid venom. Of the allergens in venoms of the Vespidae family, Ves v 5 is the most potent and has been shown to be an important allergen with a high prevalence of IgE binding. Local reactions and systemic anaphylactic reactions are common with *Vespula* stings.<sup>1-9</sup>

## Biochemical Characteristics

Amino acid sequence of honey bee venom, Ves v 5 was cloned and expressed using Sf9 insect cells infected by a recombinant baculovirus.

## Clinical Performance

Clinical performance of the rVes v 5-specific allergen was demonstrated in comparison to the native yellow jacket venom extract (I3). A total of 83 samples were tested with A670 and I3. The results were obtained using the IMMULITE 2000® 3gAllergy™ Specific IgE assay. Overall positive and negative agreements are presented in the table on the right.

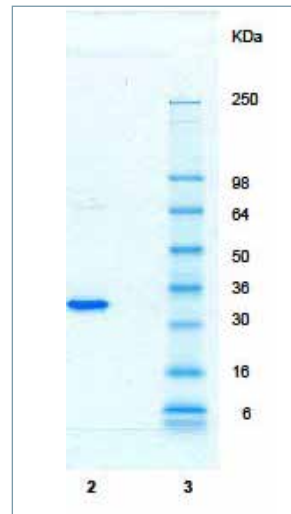


Figure 1. Coomassie Blue stained gel for rVes v 5, ~32 KDa.

		Allergen: rVes v 5 IMMULITE® 2000 I3 (Reference Method)		
A670 (Test Method)	Positive	20	10	Positive
	Negative	2	51	Negative
		Positive                      Negative		
N=83				
Overall percent agreement: 86% (71/83)				
Positive percent agreement: 91% (20/22)				
Negative percent agreement: 84% (51/61)				

# IMMULITE 2000/XPi 3gAllergy Specific IgE Product Information Sheet

## Analytical Performance

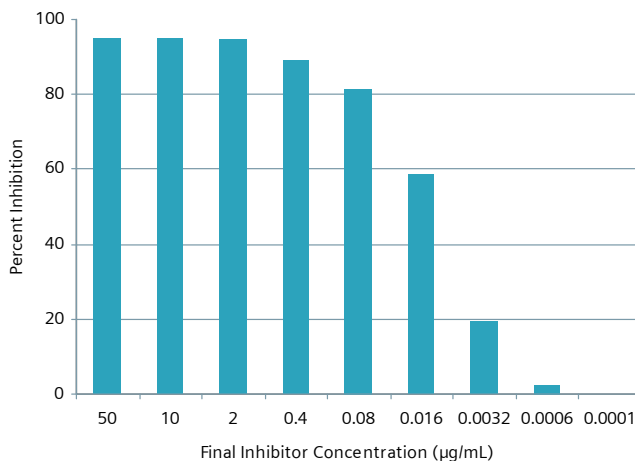
**Precision:** The average repeatability and within-lab precision using three samples and three lots of rVes v 5 allergen was 5.41% and 6.18%, respectively.

**Linearity:** Two positive samples were diluted with a low sample in increments of 12.5% and tested using three allergen lots. The undiluted (neat) and the diluted samples were assayed in three replicates, and the observed value was reported based on the average of the three replicates. Comparisons of the observed to the expected values were used to demonstrate linearity at concentrations within the assay limits.

Regression Equation	Slope 95% CI	R <sup>2</sup>
$y = 1.02x - 0.00$	1.00–1.04	0.999

## Identity Testing

Identity of rVes v 5 allergen was verified through competitive inhibition testing using a single serum sample. A negative sample was used to measure the background response. The percentage inhibitions are represented in the graph below, showing correlation to increasing inhibitor concentrations.



## References

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