

Correspondence

Stinging insect allergy

To the Editor:

In his recent editorial on stinging insect allergy, Reisman¹ discusses the use of RAST tests to determine relative potencies of purified allergens, as was done in our article on the IgE binding activities of vespid venom proteins.² Reisman claims that it is necessary to optimize the amount of protein on the solid phase by titration. We do not dispute that this is necessary with typical unpurified allergens, which are mixtures of several active and inactive substances. However, evidence has been presented that antigen titration to obtain maximal binding with purified allergens may actually maximize binding to trace impurities rather than to the major component. This was demonstrated most clearly in a carefully performed study reported by Kemeny et al.³ They found that even trace amounts of <0.1% of strong allergens caused significant binding in RAST experiments and that this problem could be eliminated with little decrease in binding to the major purified protein of interest by preparing the solid phase (disc) with a relatively small amount of allergen. By use of an appropriate dilution of serum, the interference effects of IgG antibodies can also be minimized.

We have repeated the experiments of Kemeny et al.³ with honeybee-venom allergens and performed similar experiments with egg white protein allergens⁴ as well as vespid-venom proteins.^{2,5} In all cases our results were comparable to those reported by Kemeny et al.³

The low linear correlation coefficients between the RAST results for antigenically unrelated proteins reported in our study² demonstrate that the effects of impurities have been minimized. The specific binding to many of the purified allergens was significantly greater than the specific binding to either unfractionated venom or commercial venom sac extract, indicating that sufficient allergen was coupled to the discs in our studies. We believe that the potency estimates are as good as can be obtained by RAST methods.

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Reply

To the Editor:

In his article,¹ Dr. Hoffman compared the IgE binding activity of the purified allergens of yellow jacket venom with one concentration of each fraction for coupling to the carrier disk. He has interpreted his data to suggest that "there was sufficient allergen" coupled to the disk and that there are minimal effects of impurities, which might influence results. The point raised in the editorial² was to caution comparison of relative activity by different coupling antigens without titration to assure maximum binding. This is true with either purified or unpurified allergens. With purified materials, which are often available only in small quantities, such titrations may be impossible. Nevertheless, had Dr. Hoffman used larger concentrations of antigen, binding may have been greater without influence from contaminating material. The detailed work by Kemeny et al.³ exemplifies the manner in which this problem can be approached and solved.

As stated in the editorial, the most important conclusion from Dr. Hoffman's article is that it is clear that patients do react to several different venom fractions and that there is individual variation in the relative reactivity with each fraction.

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