

Chemical Treatment of Carpets to Reduce Allergen

A detailed study of the effects of tannic acid on indoor allergens

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“Tannic acid (TA), a protein-denaturing agent, has been reported to reduce allergen levels in house dust and is marketed for that purpose as 1% and 3% solutions. We investigated the effects of TA on dust allergens by using monoclonal antibody-based ELISAs for mite (*Der p I*, *Der f I*, and group II) and cat (*Fel d I*) allergens. Initial studies confirmed that TA reduced allergen levels in carpet dust... In the laboratory, concentrations of TA as low as 0.1% inhibited the assays, but this effect may be prevented by addition of 5% bovine serum albumin (BSA). After treatment of dust samples in the laboratory with 3% TA, **the apparent reductions in *Der p I* and *Der f I* levels were 89% and 96%**, respectively... Our testing of the ability of TA to denature *Fel d I* demonstrated an 80% reduction in allergen... **The results confirmed the profound denaturing effects of TA.**”

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