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**Project Aims:** To determine, if the CleanBrands fabric prevents permeation of Der p 1, Der f 1 and Fel d 1.

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**Date of Report:** April 1, 2011

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**Samples received:** One CleanBrands fabric sample.

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**Method Summary:**

Sample Preparation:

- Three dust samples were prepared by combining 0.1g each of *D. pteryinissinus* and *D. farinae* spent mite culture with 0.8g of house dust containing a high level of Fel d 1 allergen.
- The CleanBrands fabric sample, a commercially available microfiber fabric and a commercially available cotton sheet were cut to seven inch squares.

Testing fabrics for allergen permeation under vacuum conditions:

- Each fabric sample was tested using a modified dust trap that uses vacuum to introduce and aerosolize a dust sample onto and (potentially) through the fabric. Once the dust sample was introduced into the trap, vacuum was applied for one minute\*. Any dust passing through the fabric was collected on a glass fiber filter (Millipore AP2009000) cut to 35mm diameter.
- The filter was removed from the trap and placed into a syringe.
- One milliliter of phosphate-buffered saline, 0.05% Tween with 1% bovine serum albumin (PBS-T, 1%BSA) was added to the syringe and samples were placed on a rocking platform for two hours at room temperature (24°C).
- The extract was purged from the syringe and collected into a 2mL tube.
- Extracts were tested for Der p 1, Der f 1 and Fel d 1 by MARIA™ following standard Indoor Biotechnologies protocol.

Reference: Vaughan et al. J Allergy Clin Immunol 1998; 103:27-31

\*The described testing procedure was not applicable to the CleanBrands material, as no sufficient airflow could be established to transport the testing dust sample onto and through the fabric. Due to insufficient airflow, the experiment had to be aborted after only 30 seconds as the vacuum pump threatened to over-heat.

**Results:**

<b>Fabric Sample</b>	<b>Der p 1 recovered (ng/filter)</b>	<b>Der f 1 recovered (ng/filter)</b>	<b>Fel d 1 recovered (ng/filter)</b>
CleanBrands	0.25	0.28	<0.02
Microfiber	28.7	6.89	11.59
Cotton	247.8	49.31	52.44

**Comments:**

Based on the abbreviated testing protocol conducted here, the tested CleanBrands material appeared to prevent permeation of allergens. This result was primarily based on the fact that no sufficient airflow through the material could be established.



Stephanie Filep  
 Senior Analyst