

# ASTHMA AND ALLERGY: THE PREVALENCE OF FEL D 1 (FELIS DOMESTICUS), CAT ALLERGENS IN HOMES OF SAUDI ARABIA

SM Hasnain<sup>1</sup>, H Alsini<sup>1</sup>, A Al-Qassim<sup>1</sup>, AR Al-Frayh<sup>2</sup>

<sup>1</sup>*Department of Cell Biology, King Faisal Specialist Hospital and Research Centre,*

<sup>2</sup>*Department of Pediatrics, King Saud University, Riyadh, Saudi Arabia*

[hasnain@kfshrc.edu.sa](mailto:hasnain@kfshrc.edu.sa) / +966-11-5577681

## Abstract

**BACKGROUND:** The aim of this study was to detect and quantify the levels of Fel d 1 (cat allergens) in house dust samples of different cities in Saudi Arabia encompassing agricultural, dry and humid regions and evaluate the risk of IgE sensitization in susceptible individuals and/or elicitation of allergic symptoms in already sensitized patients.

**METHODS:** House dust samples were collected from a total of 428 homes of both allergic patients as well as control homes from 10 cities in Saudi Arabia. The samples collection was randomized and based on available sources. All samples were cleaned, sieved and extracted with phosphate-buffered saline using Tween 20 (PBS-T20). The centrifuged dust extracts were assayed by ELISA method using Fel d 1 mAb (monoclonal antibodies) ELISA assay (antibodies and kits were obtained from Indoor Biotechnologies Ltd., UK).

**RESULTS:** Our results showed that Fel d 1 was present in the majority of the homes in Saudi Arabia with 71.5 % samples having Fel d 1 levels  $> 0.5 \mu\text{g/g}$ , while only 14% homes had lower or no detectable levels of Fel d 1 ( $< 0.5$ )  $\mu\text{g/g}$ . Though, the results showed that Fel d 1 levels in house dust samples were generally low in Saudi homes, clinically significant levels of Fel d 1 ( $1-8 \mu\text{g/g}$ ) were found in 7% of homes

*(30 homes). Those homes, where low levels of Fel d 1 were detected, did not have any cat. Some of the homes where higher level of Fel d 1 was detected did not have any cat either. No significant difference was found in the levels of Fel d 1 in patients and control homes.*

**CONCLUSION:** *The study suggests that even homes without cats in Saudi Arabia contained Fel d 1 allergens, possibly entering through exchange of air, contaminated stuff, contaminated school/ university bags or other environmental means such as ventilation and household contamination. Therefore, not only allergic individuals need to adapt preventive measures such as avoidance, but also people without having a known allergic condition and a source of Fel d 1, must be aware of its potential presence in homes having no cat.*

**Keywords:** *cat, allergen, house dust, Fel d 1, sensitization, asthma*

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**Authors:**

Syed M. Hasnain, PhD, FACAAI, FAAAAI<sup>1</sup>, Halima Alsini, MSc<sup>1</sup>, Alanoud Al-Qassim, BSc<sup>1</sup>, Abdulrahman Al-Frayh, MD<sup>2</sup>

<sup>1</sup>Department of Cell Biology, King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia

<sup>2</sup>Department of Pediatrics, King Saud University, Riyadh, Saudi Arabia

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3<sup>rd</sup> September 2016

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<b>Abstract ID:</b>	158
<b>Abstract Title:</b>	Asthma and Allergy: The prevalence of Fel d 1 (felis domesticus), cat allergens in homes of Saudi Arabia
<b>Abstract Presenter:</b>	SYED HASNAIN
<b>Type of Presentation:</b>	<b>ORAL PRESENTATION</b>

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