Recombinant allergen Der f 2 for *Dermatophagoides farinae* (American house dust mite)

CATALOG NUMBER: RAL0013 **LOT NUMBER:** #

RECOMBINANT ALLERGEN: *Dermatophagoides farinae* Der f 2 (Heyman *et al*., 1989).

DESCRIPTION: Der f 2 is one of the major allergens of the American house dust mite. This allergen is of the NPC2 family and it has been produced as a recombinant mature protein fused to a his-tag in its C-terminus.

PRESENTATION: liquid protein solution

SOURCE: *Pichia pastoris*

MOLECULAR WEIGHT: determined by SDS-PAGE, the protein appears at the molecular marker of 18,400 Da, while relative molecular mass calculated from amino acid sequence is 17.805,20 Da.

BATCH COMPOSITION:

COMPONENTS	COMPOSITION
his-Der f 2	recombinant allergen with a his-tag
Storage buffer	20 mM phosphate buffer pH 6, 0.15 M NaCl and and 0.1% polyoxyethylene (10) tridecyl ether

QUALITY CONTROL:

1. PROTEIN CONCENTRATION DETERMINED ESPECTROPHOTOMETRICALLY

DO_{280} = 0.636
$A_{0.1\,\%}$ (=1 g/l) = 0.581
CONCENTRATION*: 1.09 mg/ml

* The measurement of the protein concentration has been performed with the theoretical extinction coefficient of the recombinant protein obtained from Gill and vonHippel, 1989

2. PURITY CONTROL IN SDS-PAGE: 15%

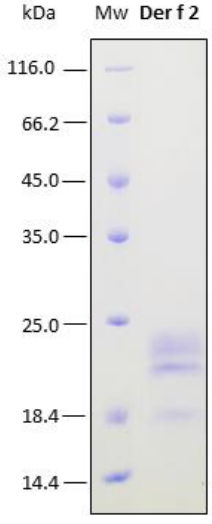

Figure 1. SDS-PAGE analysis (15%) of 5 µl of the recombinant allergen Der f 2. Purity is >95% as determined by gel electrophoresis.

3. ANALYSIS BY AN ELISA ASSAY

The evaluation of the recombinant allergen has been evaluated in an external study carried out at a Spanish hospital by a group of allergists with positive and negative serum samples from patients. The evaluation of the recombinant allergens has been performed by means of an in-house ELISA assay. In this immunoassay, it has been determined the presence of specific IgE in sera that had previously been validated by skin prick testing (SPT) and the UniCAP® test. The sera panel for this study was composed of 25 positive and 10 negative specimen sera.

The recombinant allergen Der f 2 detected 18 positive sera out of 25 (72% incidence) with higher prevalence of sera with titers of 0.70-3.5 IU/ml (international units per milliliter; 1 IU is equivalent to 2.42 ng of IgE).

4. ABSENCE OF PRECIPITATION AFTER A FREEZING AND THAWING CYCLE: ok

LOT SPECIFICATIONS:

1. CONCENTRATION: 1.09 mg/ml

2. TOTAL QUANTITY PER ALIQUOT: 1 mg

3. TOTAL VOLUME PER ALIQUOT: 0.962 ml

4. STORAGE: Protein is shipped with dry ice. Upon arrival, it should be aliquoted in order to avoid repeated freezing and thawing cycles and stored at -20ºC to -80ºC.

5. OBSERVATIONS: proteins should be maintained frozen at high concentrations. In order to defrost the protein, maintain the aliquot at 25ºC without shaking to avoid aggregation. Prior making test dilutions and after defrosting the protein, is recommended to remove possible protein aggregates by centrifuging the stock solution, avoiding alterations in the immobilization of the biomolecule to the solid surface.

RELATED PRODUCTS:

Der p 10, Lep d 2, Der p 1.

BIBLIOGRAPHY:

Heyman PW, Chapman MD, Fox J, Aalberse, RC, PlattsMills, TAE. Antigenic and structural analysis of the Group II allergens (Derp II and Der f II) from house dust mites (*Dermatophagoides* sp). J Allergy Clin Immunology 1989; 83:1055-67.

Gill SC, von Hippel PH. Calculation of protein extinction coefficients from amino acid sequence data. *Anal Biochem.* 1989 Nov 1;182(2):319-26.

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Important Notes: During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 µl or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the containers cap.

Although recombinant antigens are expressed in non-pathogenic *P. pastoris* and bacterial integrity is destroyed during purification, the antigen preparation should be handled as potentially infectious.

FOR RESEARCH AND COMMERCIAL USE *IN VITRO*: not for human *in vivo* or therapeutic use.

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