

nDer p 1

Natural Der p 1 Molecular Reference Standard

Product Code: MRS-NDP1

The Natural Der p 1 MRS is intended to serve as reference standard to determine the Der p 1 content of allergen preparations from house dust mite (*Dermatophagoides pteronyssinus*) by immunoassay.

Allergen: Natural Der p 1 (*Dermatophagoides pteronyssinus* allergen 1)

Lot No: xxxxx

Source: *D. pteronyssinus* culture

Mol. Wt: 24 kD

Purification: From spent mite culture by multi-step affinity chromatography.

Composition: 10µg natural Der p 1, determined by Amino Acid Analysis, freeze dried

in sealed glass vial.

SDS-PAGE: See inset. Silver-stained SDS-PAGE under non-reducing conditions shows

a single band at 24 kD.

ELISA: Immunoreactive in Der p 1 specific ELISA. No trace contamination with Der p 2

was detected by ELISA.

<u>Purity:</u> >95% purity by in-solution LC-MS/MS after tryptic digest.

Formulation: Prior to lyophilization, natural Der p 1 was adjusted to 50 mM volatile

ammonium bicarbonate with 3% trehalose.

Storage: Store at -20°C.

<u>Use:</u> For Research Use Only: Not for Diagnostic or Therapeutic Use

The Natural Der p 1 MRS is an Inbio[™] product.



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Reconstitution:

- Allow vial to reach room temperature before use
- Tap vial gently to collect all material at the bottom
- Using a sterile syringe reconstitute the MRS to desired concentration by injecting a suitable volume of a buffer of choice (e.g. PBS, pH 7.4 or 1% BSA/50% glycerol/PBS, pH 7.4).
- Mix by gently swirling the vial until content is completely dissolved.
- Adding 1ml of buffer will result in a Der p 1 concentration of 10,000ng/ml.





References:

- Gough L, Schultz O, Sewell HF, Shakib F. The cysteine protease activity of the major house dust mite allergen Der p 1 selectively enhances the immunoglobulin E antibody responses. J Exp Med 1999; 190:1897-1901.
- 2. Wan H, Winton HL, Soeller C, Tovey ER, Gruenert DC, Thompson PJ, Stewart GA, Taylor GW, Garrod DR, Cannell MD, Robinson C. Der p 1 facilitates transepithelial allergen delivery by disruption of tight junctions. J Clin Invest 1999; 104:123-133.
- 3. Chruszcz M, Chapman MD, Vailes LD, Stura EA, Saint-Remy JM, Minor W, Pomés A. Crystal structures of mite allergens Der f 1 and Der p 1 reveal differences in surface- exposed residues that may influence antibody binding. J Mol Biol. 2009; 386:520-530.
- 4. Chapman MD et al. The European Union CREATE project: a model for international standardization of allergy diagnostics and vaccines. J Allergy Clin Immunol. 2008;122:882-889.
- 5. van Ree R et al. The CREATE project: development of certified reference materials for allergenic products and validation of methods for their quantification. Allergy. 2008;63(3):310-26.
- 6. Kaul S et al. Regulatory environment for allergen-specific immunotherapy. Allergy 2011;66:753-64.
- 7. Chapman MD and Briza P. Molecular approaches to allergen standardization. Curr Allergy Asthma Rep. 2012;12:478-84.
- 8. Chapman MD et al. Technological Innovations for High-Throughput Approaches to In Vitro Allergy Diagnosis. Curr Allergy Asthma Rep. 2015;15:36.