

## Natural Der p 2 Molecular Reference Standard

**Product Code: MRS-NDP2**

The Natural Der p 2 MRS is intended to serve as reference standard to determine the Der p 2 content of allergen preparations from house dust mite (*Dermatophagoides pteronyssinus*) by immunoassay.

Allergen: Natural Der p 2 (*Dermatophagoides pteronyssinus* allergen 2)

Lot No: xxxxx

Source: *D. pteronyssinus* culture

Mol. Wt: 14kD

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



nDer p 2

Composition: 10µg natural Der p 2, 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 14kD.

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

Purity: >98% purity by in-solution LC-MS/MS after tryptic digest.

Isoforms: Analyzed by LC-MS/MS. Main Isoforms: Der p 2.0110 (43%) and Der p 2.0101 (37%). Other Isoforms present (20%): Der p 2.0103, Der p 2.0104, Der p 2.0114.

Formulation: Prior to lyophilization, natural Der p 2 was adjusted to 50 mM volatile ammonium bicarbonate with 3% trehalose.

Storage: Store at -20°C.

Use: **For Research Use Only: Not for Diagnostic or Therapeutic Use**

The Natural Der p 2 MRS is an Inbio™ product.

# Natural Der p 2 Molecular Reference Standard

**Product Code: MRS-NDP2-1**

## 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 2 concentration of 10,000ng/ml.

## References:

1. Smith AM et al. The molecular basis of antigenic cross-reactivity between the group 2 mite allergens. *J Allergy Clin Immunol* 2001;107:977-84.
2. Derewenda U et al. The crystal structure of a major dust mite allergen Der p 2, and its biological implications. *J Mol Biol.* 2002;318:189-97.
3. Trompette A et al. Allergenicity resulting from functional mimicry of a Toll-like receptor complex protein. *Nature.* 2009;457:585-8.
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.