

# NSABS 2020

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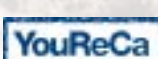
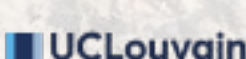
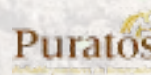
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## Development of a new highly specific method for the identification and quantification of the main allergen Lup an 1 of narrow-leaved lupin (*Lupinus angustifolius* L.) seeds in natural and processed foods

Lima-Cabello E<sup>1</sup>, Alché JD<sup>1</sup>, Jimenez-Lopez J.C.<sup>1,2\*</sup>

1 - Department of Biochemistry, Cell & Molecular Biology of Plants; Estacion Experimental del Zaidin; Spanish National Research Council (CSIC). Profesor Albareda 1, Granada E-18008, Spain

2 - The UWA Institute of Agriculture and School of Agriculture and Environment; The University of Western Australia. Crawley WA 6019, Australia

\*Corresponding author: [josecarlos.jimenez@eez.csic.es](mailto:josecarlos.jimenez@eez.csic.es)

Lupin is a legume increasingly demanded for consumption due to the large number of health benefits (functional food), particularly narrow-leaved lupin or NLL (*Lupinus angustifolius* L.).

This rapid introduction and growing market demand for new foodstuffs based on components of lupine seed, the number of people allergic to lupine is also growing [1,2,3]. Thus, the aim of this study was to develop a new method to be used for the detection, identification and quantification of the main lupin allergen (Lup an 1) in both processed and unprocessed foods.

This method offers absolute specificity in the identification of beta-conglutin proteins, which are the main allergens of the lupin seeds. This technology can also detect cross contamination in foods that typically do not contain them [4,5].

The specificity and novelty of the method is based on 1) the development of a highly specific antibody by combining bioinformatics and experimental methodologies, 2) obtaining this allergen (Lup an 1 / Lup a 1) purified from recombinant sources, 3) the use of these two in obtaining standard quantification curves, and 4) in the method of protein extraction specially adapted for food, thereby avoiding obtaining "false positive" detections due to cross reactions with other proteins of nearby species such as peanut, and even with non-allergenic proteins; or "false negatives" due to the absence of these allergens due to the inappropriate method used for the extraction of protein from food [6].

This new technological development will contribute to a more effective management of food allergens by the food industry, regulatory agencies and bio-sanitary professionals, thus helping to protect the health of consumers.

### References

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