



Danish Agency for Higher
Education and Science



Food & Bio Cluster
Denmark

Conference on

Healthy, Safe and Sustainable Foods of the Future

13 October

Can we avoid fuelling the increase in food allergy by introducing new foods?

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New foods introduced to the market

Novel food guidelines

GUIDANCE

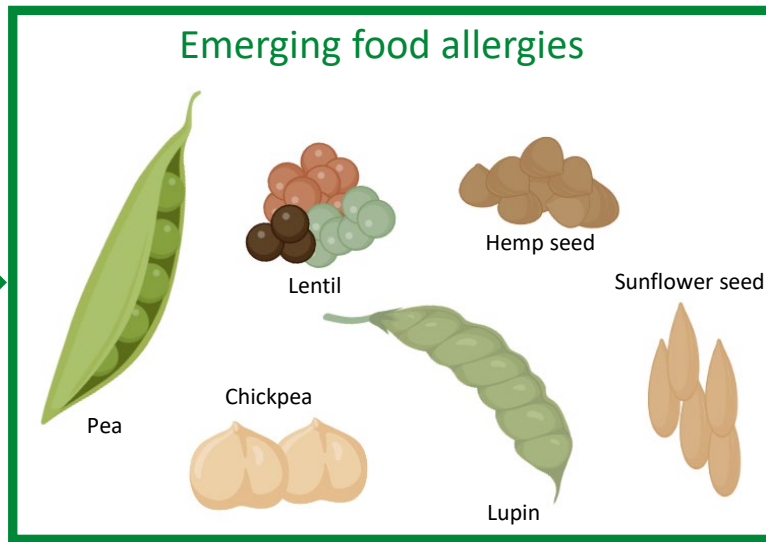
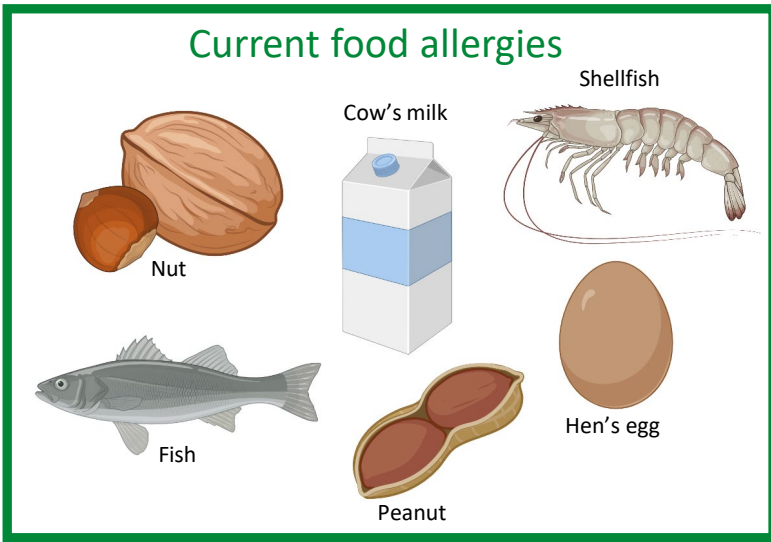
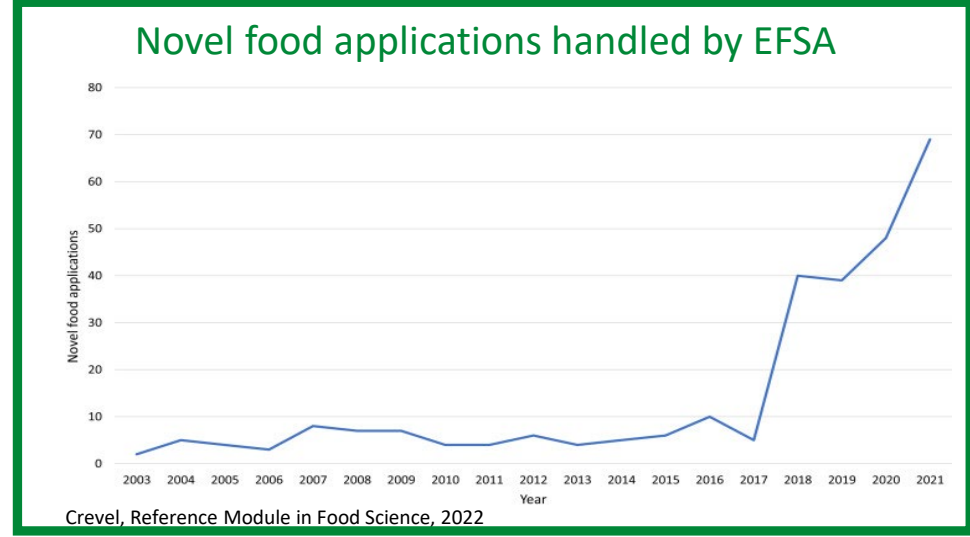
doi:10.2903/j.efsa.2021.6555

Guidance on the preparation and submission of an application for authorisation of a novel food in the context of Regulation (EU) 2015/2283¹ (Revision 1)²

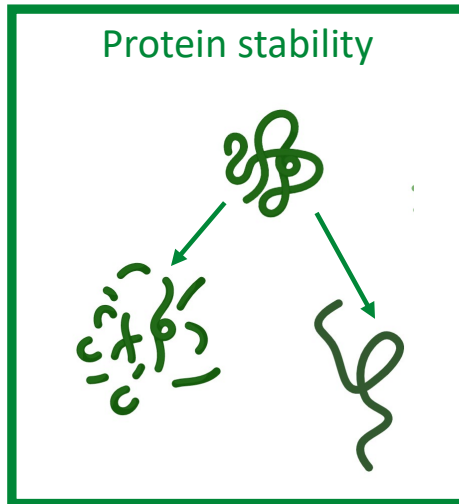
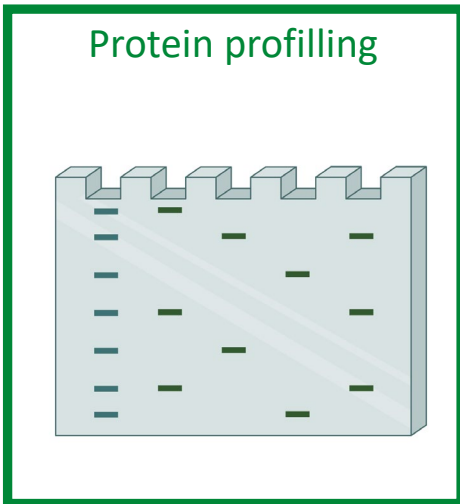
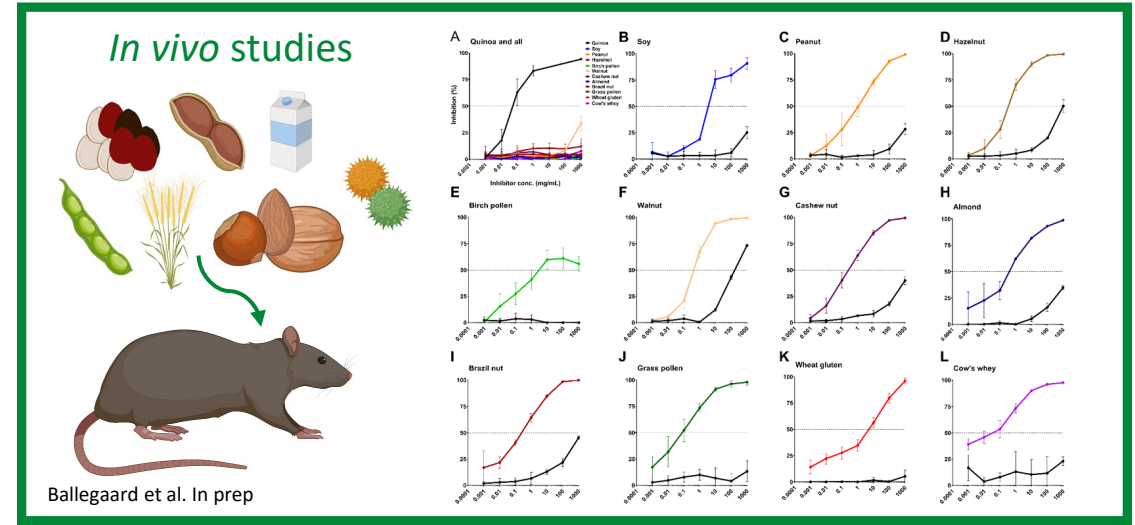
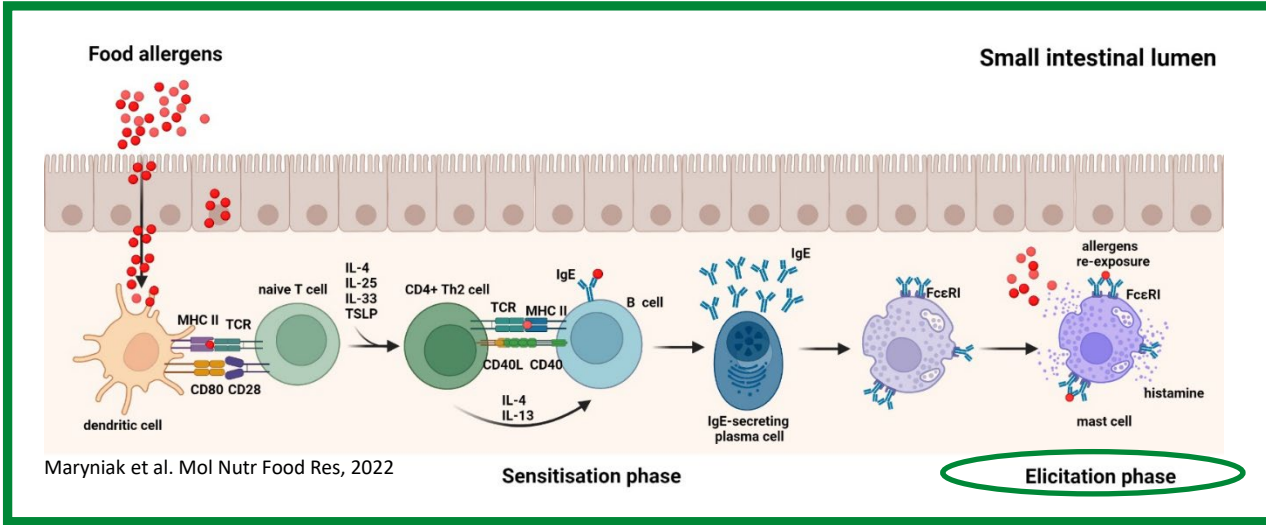
1.10. Allergenicity

Food allergens are mostly proteins. Hence, the allergenic potential of a novel food containing no protein (or peptides) is very low. An accurate description of the methods used for the analysis of the protein content in the novel food (including the limits of detection and quantification) and the results from those analyses should be provided in Section 1.3.

The default assumption for novel foods containing proteins is that they have allergenic potential. The allergenic potential of the novel food should be explored by considering its composition, particularly its protein(s), its source (including taxonomic relationships), the production process, and available experimental and human data, including information on cross-reactivity. This comprises a comprehensive literature review in order to retrieve available information on sensitisation, case reports of allergic reactions, and/or allergenicity studies (*in vitro*, in animals, in humans) of the novel food and/or its source(s).



De novo sensitisation vs. cross-reactivity

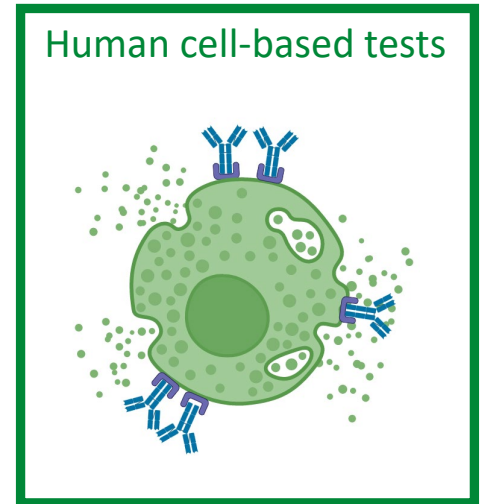


Sequence homology

1¹KLPT**RS**MILL¹⁰
 1¹PLPP**RS**MIPP¹⁰

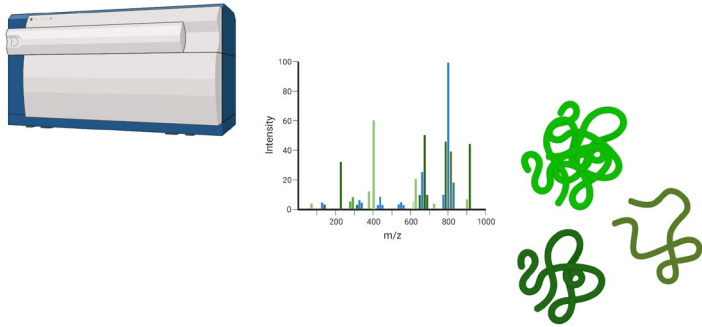
11¹¹PLIV**MT**LRKLP²⁰
 11¹¹RLIV**MT**YRPP²⁰

21²¹LLAI**SER**IKL⁴⁰
 21²¹LLK**ISTR**ILA⁴⁰

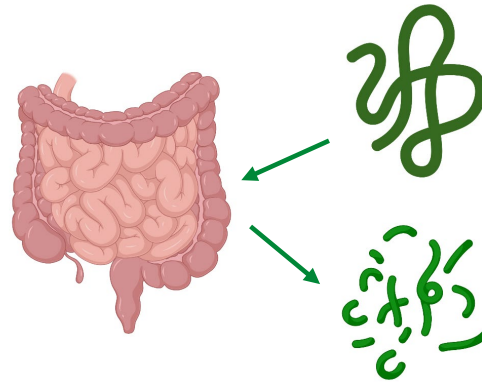


De novo sensitisation vs. cross-reactivity

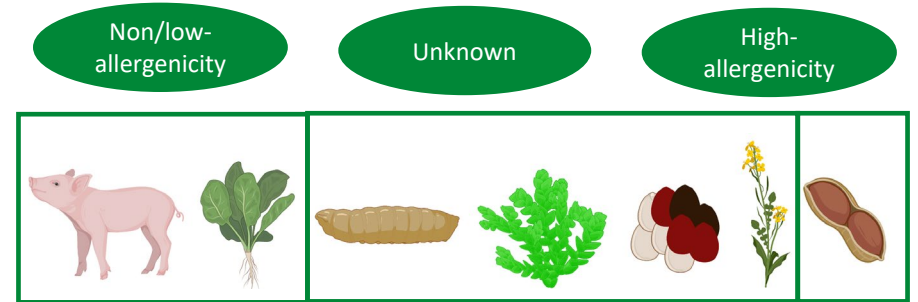
Protein identification



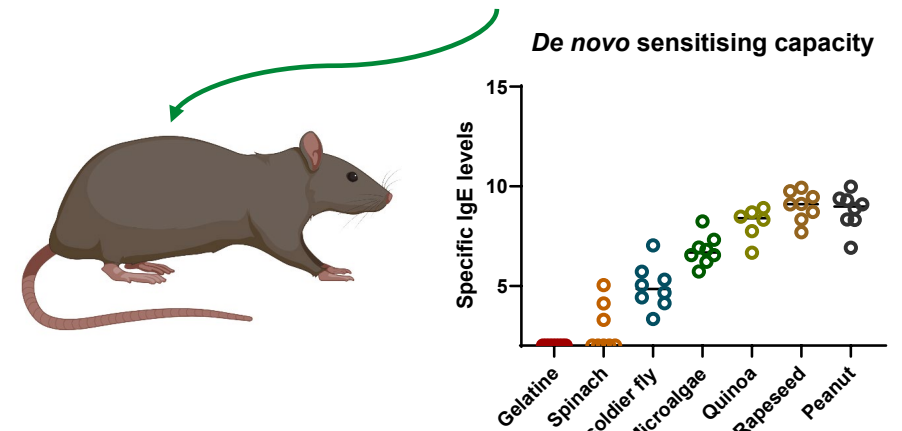
In vitro protein digestibility



In vivo sensitisation model

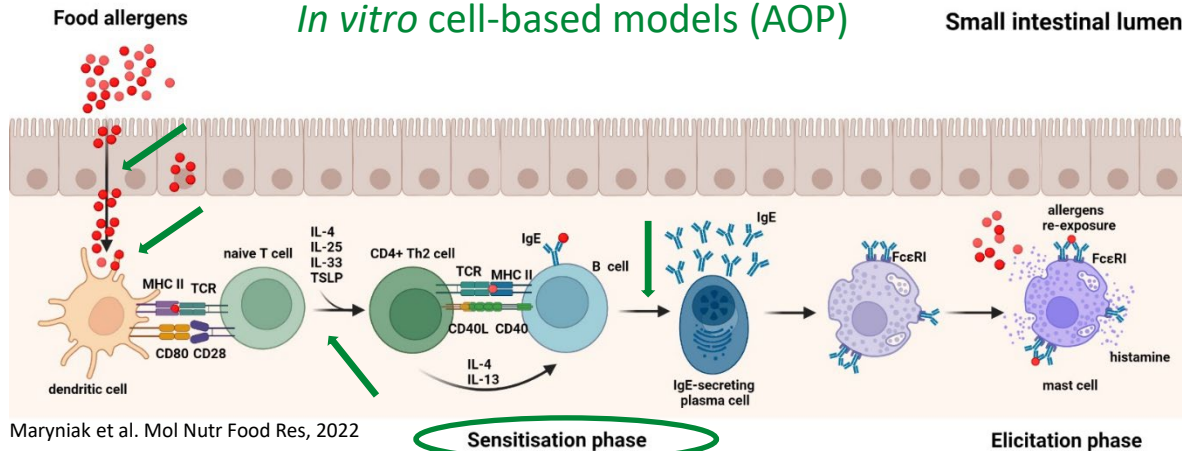


De novo sensitising capacity



Zhou, Liguori, Ballegaard, Sancho, Bøgh et al., Unpublished data

In vitro cell-based models (AOP)



Maryniak et al. Mol Nutr Food Res, 2022



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