

Assessment and quantification of latex protein (LP) transfer from LP-containing contact materials into food and drink products (A03043)

Wednesday 19 January 2005

This project's results and the means by which these results have been communicated.

Results and findings

1. The literature review found citations of clinical studies showing anecdotal evidence of food-mediated latex allergy largely attributed to the use of latex gloves for handling food.
2. The consultation exercise (224 respondents) demonstrated that the food industry was highly aware (80% of respondents) of latex allergy. Several latex containing materials were used which had the potential of coming into contact with foodstuffs. These included latex gloves used by food handlers, certain adhesives used on food packaging (e.g. the adhesive used to seal chocolate bars and ice cream wrappers), netting used on meat and bakery release films which are used on food processing lines.
3. New improved Fitkit ELISAs were successfully developed, evaluated and subsequently used in the study for the determination of low levels (5-10 ng/ml) of the 4 major latex allergens (Hev b1, Hev b2, Hev b3 and Hev b6.02).
4. The results with allergen spiked food samples showed reasonable recoveries for Hev b5 (80±17%) and Hev b6.02.(98±12%) for several of the food types. Recoveries of Hev b1 and Hev b3 were generally poor for most of the food types tested. However, the assays clearly detected and differentiated allergen-positive samples from the unspiked controls.
5. The study indicated the presence of one or more of the latex allergens in 7 out of 21 commercial packaging materials (e.g. chocolate bar and ice cream wrappers).
6. Low levels of latex allergens (Hev b3 or Hev b5) were found in 3 of the 7 foods tested.
7. Brief experiments were also carried out to investigate the possibility of latex allergen transfer into foods under extreme 'abuse' conditions. An apple was handled several times with latex gloves worn inside out; and a pastry sample was rolled thinly onto a bakery release film. In both cases there was clear evidence of transfer of low levels of one or more of the latex allergens from the latex containing materials into the foods.

This research has shown that latex allergens may be present in some food packaging materials and that there is the possibility of transfer from the material to the food. A modified ELISA method has been developed to detect and quantify latex allergens in packaging and foods. Further work is required to improve this method to make it a fully

validated, quantitative, robust analytical technique. Latex allergen transfer has serious implications for some individuals.

#### Dissemination information

The final report is available from the FSA Library and Information centre.

To obtain a copy, please contact the Enquiry Desk, Dr Elsie Widdowson Library and Information Services, Food Standards Agency (tel: 020 7276 8181/8182 or email:

[library&info@foodstandards.gsi.gov.uk](mailto:library&info@foodstandards.gsi.gov.uk))

#### Further information

For any enquiries concerning this research project, please contact the relevant Programme contact or email [science@foodstandards.gsi.gov.uk](mailto:science@foodstandards.gsi.gov.uk)

[News Centre](#) | [Nutrition](#) | [Safety and Hygiene](#) | [BSE](#) | [Labelling](#) | [GM](#) | [Industry](#) | [Enforcement](#) | [Science and Research](#) | [About us](#) | [About this site](#) | [Our sites](#) | [Link to us](#) | [Site Map](#) | [Access Keys](#) | [Disclaimer](#) | [direct.gov.uk](#)

[© Crown Copyright](#)