Comment on : Koppelman SJ, Jayasena S, Luykx D, Schepens E, Apostolovic D, de Jong GA, et al. : Allergenicity Attributes of Different Peanut Market Types

Reference:

Sabato Vito, Ebo Didier.- Comment on : Koppelman SJ, Jayasena S, Luykx D, Schepens E, Apostolovic D, de Jong GA, et al. : Allergenicity Attributes of Different Peanut Market Types
Food and chemical toxicology - ISSN 0278-6915 - (2016)
Full text (Publishers DOI): http://dx.doi.org/doi:10.1016/j.fct.2016.03.019
To cite this reference: http://hdl.handle.net/10067/1328650151162165141

Comment on: Koppelman SJ, Jayasena S, Luykx D, Schepens E, Apostolovic D, de Jong GA, et al. Allergenicity Attributes of Different Peanut Market Types. Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association 2016.

To the Editor,

We read with great interest the manuscript by Koppelman *et al* (1) about the allergenicity attributes of different peanut market types. From this study it emerges that raw peanut materials from the main market types consumed in western countries are highly comparable in their allergenicity enabling quantitative risk assessment, regardless the peanut variety. However, as highlighted by an International Workshop report in this Journal (2), SDS-PAGE and IgE-binding studies cannot be considered as absolutely predictive of the allergenicity of food. Moreover, as also acknowledged by the authors, since these techniques do not assess the ability of an allergen to trigger basophils and mast cells they should be supplemented by functional assays to enable a correct risk assessment. The need for functional tests in the risk assessment of food allergenicity had already been done by van Ree *et al* (3). In any way, our research group has demonstrated that thermal processing can significantly enhance, decrease, leave unaltered or completely abolish the capacity of 5 different peanut cultivars to trigger basophil from peanut allergic patients presenting the same sensitization profile (4). However, the effect of air/oil roasting and blanching on the capacity to activate the cells could not be predicted by the results from SDS-PAGE and IgE-immunoblots. Finally, the finding the allergenicity of various peanut cultivars to be highly comparable appears to difficultly fit within the observation of 10% false-negative peanut challenges in patients with severe peanut allergy (5). Actually, it cannot be excluded that this phenomenon has contributed to some extent to the false-negative challenges. In conclusion, results obtained with IgE-binding techniques should be complemented by a more functional analysis. For this purpose double blind placebo controlled food challenges are hampered by ethical and practical issues. Therefore the BAT, which closely mirrors the in vivo pathway leading to symptoms, could provide important information about the allergenicity of foods.

References

1. Koppelman SJ, Jayasena S, Luykx D, Schepens E, Apostolovic D, de Jong GA, et al. Allergenicity Attributes of Different Peanut Market Types. Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association. 2016.
2. Thomas K, Herouet-Guicheney C, Ladics G, McClain S, MacIntosh S, Privalle L, et al. Current and future methods for evaluating the allergenic potential of proteins: international workshop report 23-25 October 2007. Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association. 2008;46(9):3219-25.
3. van Ree R, Vieths S, Poulsen LK. Allergen-specific IgE testing in the diagnosis of food allergy and the event of a positive match in the bioinformatics search. Molecular nutrition & food research. 2006;50(7):645-54.
4. Sabato V, van Hengel AJ, De Knop KJ, Verweij MM, Hagendorens MM, Bridts CH, et al. Basophil activation reveals divergent patient-specific responses to thermally processed peanuts. Journal of investigational allergology & clinical immunology. 2011;21(7):527-31.
5. Fleischer DM, Conover-Walker MK, Christie L, Burks AW, Wood RA. Peanut allergy: recurrence and its management. The Journal of allergy and clinical immunology. 2004;114(5):1195-201.

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