demonstrated important differences in the infant data as compared to adults and confirmed the practical use of this animal model for infant formula testing.

http://dx.doi.org/10.1016/j.toxlet.2013.05.221

P09-23
The scaling of allergenic products for the hazard characterisation of new proteins

A.G. Kruizinga*, R.H. Klein Entink, W.M. Blom, G.F. Houben, J.H.M. van Bilsen

TNO, Zeist, The Netherlands

Food manufacturers are moving towards sustainable, alternative protein sources, which should have the lowest allergy risk possible. Until now, accurate pre-marketing assessment of the allergenicity of new proteins is impossible. Moreover, existing guidance documents are restricted to qualitative assessment, have low predictive value and result often in an oversimplification in terms of hazard assessment. To overcome those limitations, we developed a two-dimensional scale for expressing allergenicity that allows a quantitative hazard characterisation of new proteins.

The two dimensions of the scale were defined as (1) the *prevalence* expressed as the percentage of the general population that has the allergy and (2) the *potency* of the protein expressed as the ED50 in mg-protein of the allergen (the dose that provokes objective allergic responses in 50% of the allergic persons). Severity of symptoms was not included, since this is a result of the nature of the exposure and the sensitivity of the individual rather than an inherent and independent attribute of the protein.

The scale was further developed by ranking 11 allergenic products based on in total 1786 data points on potency and 22 scientific papers on prevalence, selected after a critical review. The resulting 2-dimensional scale can be used to project a new protein on the scale and assess its potential hazard relative to the known allergens. In a next step, we aim to develop a model that predicts the position of a new protein on the scale using its physical, chemical and biological characteristics.

http://dx.doi.org/10.1016/j.toxlet.2013.05.222

P09-24
Toxicological, genotoxicological, antigenotoxicological, cytotoxicity and lifespan studies of beer and some components

Maria Tania Merinas-Amo*, Leticia Villalba-Benito, Rafael Almagro-Berlanga, Magdalena Romero-Jimenez, Marcos Mateo-Fernandez, Angeles Alonso-Moraga, Fernando Calahorro-Nuñez

University of Cordoba, Spain

Beer is the third most popular drink overall and provides 7.2% of the daily dietary ingestion of polyphenols. We studied different types of beer and some of its distinctive components tested, i.e. xanthohumol, choline and folic acid by evaluating the following endpoints: (i) the lack of genotoxicity in the *Drosophila* Somatic Mutation And Recombination *in vivo* system; (ii) the ability to inhibit the genotoxicity induced by oxidative mutagens; (iii) the effect that these substances exert on the quality and life expectancy in *Drosophila* chronically treated and (iv) the capacity to induce *in vitro* cell death in the HL60 tumour line.

The results showed that the lager beer, xanthohumol and choline are safe showing nor toxic neither genotoxic effects at the tested concentrations and all of them exhibited antigenotoxic activity against hydrogen peroxide in a dose-dependent manner by reaching inhibitory potencies of 65%. Folic acid resulted slightly toxic at the highest assayed concentration. The entire life-span and health-span curves showed that all the compounds significantly increased the life span extension. Three out of four of the substances assayed showed cytotoxic activity against HL-60 cells, folic acid being the only substance with no ability for growing inhibition.

Our results provide evidences that beer and its bioactive compounds could have a positive effect on the quality of life and confer protection against degenerative processes.

http://dx.doi.org/10.1016/j.toxlet.2013.05.223

P09-25
Withdrawal time of fosfomycin in pigs and broiler chickens after oral and intramuscular administration

Denisa S. Pérez[1,2,*], Alejandro L. Soraci[1,2], María O. Tapia[1,2]

[1] *Área de Toxicología, Dpto. de Fisiopatología, Centro de Investigación Veterinaria de Tandil, Facultad de Ciencias Veterinarias, Universidad Nacional del Centro de la Provincia de Buenos Aires, Tandil, Buenos Aires, Paraje Arroyo Seco s/n 7000, Argentina,* [2] *CONICET, Consejo Nacional de Investigaciones Científicas y Técnicas, Ciudad Autónoma de Buenos Aires, Argentina*

Fosfomycin (FOS) is a broad-spectrum bactericidal antibiotic, used for the treatment and prevention of pulmonary and enteric infections in poultry and intensive pig farming. FOS pharmacokinetics has been extensively studied in humans and animals; although its withdrawal time (WDT) has not been determined yet. This study was aimed to determine WDTs of calcium and disodium FOS in pigs and broiler chickens. For residue analysis and WDT calculation, 48 healthy, 145–150 day-old pigs and 48 healthy, 14 day-old, broiler chickens, were used. In both species, animals were divided in two groups (A and B). *Groups A – Oral Assays*: calcium FOS, 5 consecutive days; 30 mg/kg pv, (pigs) and 40 mg/kg pv (broiler chickens). On the fifth day of trial, FOS dosage was discontinued. *Groups B – Intramuscular Assays*: disodium FOS; 15 mg/kg pv (pigs) and 10 mg/kg pv (broiler chickens). In all assays, 24, 48, 72 and 96 h after dosage discontinuation, groups of 6 animals were euthanized. Samples of muscle, liver, kidney and skin-fat were obtained and processed for the determination of residual concentrations of FOS by HPLC MS–MS. WDTs were calculated by the statistical program WTM 1.4. The longer WDT were 2.95 and 2.55 days (kidney) for the oral administrations and 1.73 (liver) and 1.72 days (muscle), for the intramuscular administrations, in pigs and broiler chickens, respectively. Therefore, WDTs of 3 days (after oral administrations) and 2 days (after intramuscular administrations), could be assigned as a precautionary principle for public health, without a significant economic impact for the producers.

http://dx.doi.org/10.1016/j.toxlet.2013.05.224