

RESEARCH GROUP

Trace elements



The group is open to discuss any kind of collaboration with industry and academia related to these topics.

The trace elements group accumulates deep expertise in the integral assessment of the risk-benefit analysis associated to the presence of traces of toxic elements and their chemical species in foods, especially heavy metals or metalloids such as arsenic, mercury, cadmium and lead.

FIELD OF EXPERTISE

Chemical hazards present in foods are a major threat to public health. This matter extends beyond the health boundaries and has overarching social and economic implications. Toxic trace elements accumulate in plants and animals and after entering the food chain become a menace for the long term well-being of individuals.

The group approaches this problem in a broad fashion by developing analytic methodologies to characterise trace elements and their species in foods, evaluation of consumption, assessment of bioavailability, uptake, transport, metabolism and toxic effects using in vitro and in vivo models. They also evaluate biomarkers of exposure and new dietary strategies to reduce the bioavailability and counteract the toxic effect of trace elements in food and water

MAIN APPLICATIONS AND SERVICES

- Development and application of analytic methodologies for trace elements and their species in food, biological and environmental samples.
- Bioavailability assessment: in vivo and in vitro systems for the analysis of gastrointestinal solubilisation, uptake and transport of trace elements and their species.
- Formulation of foods and dietary strategies to diminish the bioavailability and toxicity of toxic trace elements.
- Development of fast screening methods for determination of trace elements and their species in food matrices.
- Identification of biomarkers of trace element exposure.
- Evaluation of toxic effects of trace elements and their species on the gastrointestinal tract.



FURTHER INFORMATION

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