

# 5<sup>th</sup> European Nutrition and Dietetics Conference

June 16-18, 2016 Rome, Italy

## The omic approach to evaluate the infant foods innovation (formulas and beikost) and their challenges for optimal baby health

**Gaspar Ros Berruezo**  
University of Murcia, Spain

For babies, breast milk is the adequate food because it provides the energy and nutrients needs to be healthy. Infant formulas are available for babies whose mothers are not able or decide not to breastfeed or after the period of lactation. Infants usually combines infant formulas and start eating solid foods between 4 and 6 months of age and introduce one new food at a time to identify any foods that cause allergies. With the new generation of complementary infant food and the better acknowledge of the mature mother's milk (MMM) composition macronutrients as well as micronutrients have been reformulated at infant formulas. Nowadays challenges are mainly in those micronutrients present in MMM that are difficult to find in the amount and from needed for the baby during the growth period. Two of them are human lactoferrin (hLf) and polyamines. Lactoferrin, is a glycoprotein that belongs to transferrin family and specific polyamines (PAs) including spermine (SPM), spermidine (SPD) and putrescine (PUT) have been identified in the breast milk of mammalian species. Both are in higher concentration in MMM and low in infant formulas. Due to their nature the play key roles in the ability to enhance Fe bioavailability in the case of hLf and are essential for cell proliferation and differentiation involved in DNA, RNA and protein synthesis in the case of PAs, shearing common aspects related to immunity or microbiota regulation. Another important aspect if the baby feeding after lactation where beikost and specially homogenized baby food (MBF) provide the nutrient balance for normal growth and the early programming theory proposes that affect metabolic patters that may manifest them later in life. In this case the increasing prevalence of obesity and other non-communicable diseases (NCDs) during infancy and childhood is a reality in some European countries that maybe influenced by the nutrition during infanthood. In this research will present several *in vitro* and *in vivo* studies facing the study of the solubility, bioavailability and metabolic pattern of hLf and PAs on the immunity and microbiota, as well as the implication of macronutrients balance of HBF on the gene expression involved in the development of obesity especially in epididymal fat tissue.

### Biography

Gaspar Ros Berruezo is a Professor of Human Nutrition and Food Science (including Food Safety) at the University of Murcia (UM), serving this Institution for more than 25 years. He has been Post-Doc Fulbright Scholar from 1989-90 at the University of Tennessee at Knoxville, USA. He is a Project Leader of the VITALIS Centre for Research in Food Science, Human Nutrition and Health in the Mediterranean area, under construction. His research interest is to functional foods and ingredients, the metabolism to nutritional functionality (including bioavailability and omics) for normal growth and development on infants and to prevent non-communicable diseases (NCDs) such as cardiovascular diseases or obesity.

[gros@um.es](mailto:gros@um.es)

### Notes: