DIETARY PRODUCTS AND HUMAN MICROBIOTA: A LIAISON FOR DISEASE CONTROL AND PREVENTION?

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Bioactive peptides have been defined as food derived components (naive or generated) that, in addition to their nutritional value, exert a physiological effect in the mouth and into the whole body. These are inactive or latent in the parent protein, but are released in an active form after fermentation or proteolytic digestion. Bioactive peptides may be absorbed through the intestine where they subsequently enter the circulatory system intact to exert various physiological effects, or they may produce local effects in the digestive tract (Erdmann et al., 2008; Ryan et al., 2011). Some of these released peptides exert biological activities such as opiate-like, antihypertensive, mineral-binding, antioxidative, antimicrobial, immuno-, and cytomodulating activity (Arihara, 2006; Artan et al., 2008; Ryan et al., 2011). Nowadays we know that human microbiota, and moreover intestinal and oral microorganisms have an impact on the general health of an individual (Wade WG, 2013; Santacroce L et al, 2010).

With this in mind, in recent years numerous attempts have been carried out to immune system microbial products modulation using both synthetic and natural molecules. Among these the most interesting are represented by some foods and nutrients of vegetal origin, such as polyphenols, resveratrol and tyrosol, and some others. All of these show potent immune stimulating effects, antimicrobial activity against a variety of microorganisms (including viruses), cancer preventative and therapeutic activity against a number of tumors. (Tatullo M et al, 2016; Yang T et al, 2015; Kishikawa A et al, 2015; Warnke PH et al, 2013).

Therefore, that evidence suggests their potential use as nutraceuticals and functional food ingredients for health promotion and disease risk reduction (Lordan et al., 2011).

Hence, these peptides are being incorporated in the form of ingredients in functional and novel foods, dietary supplements and even pharmaceuticals with the purpose of delivering specific health benefits.