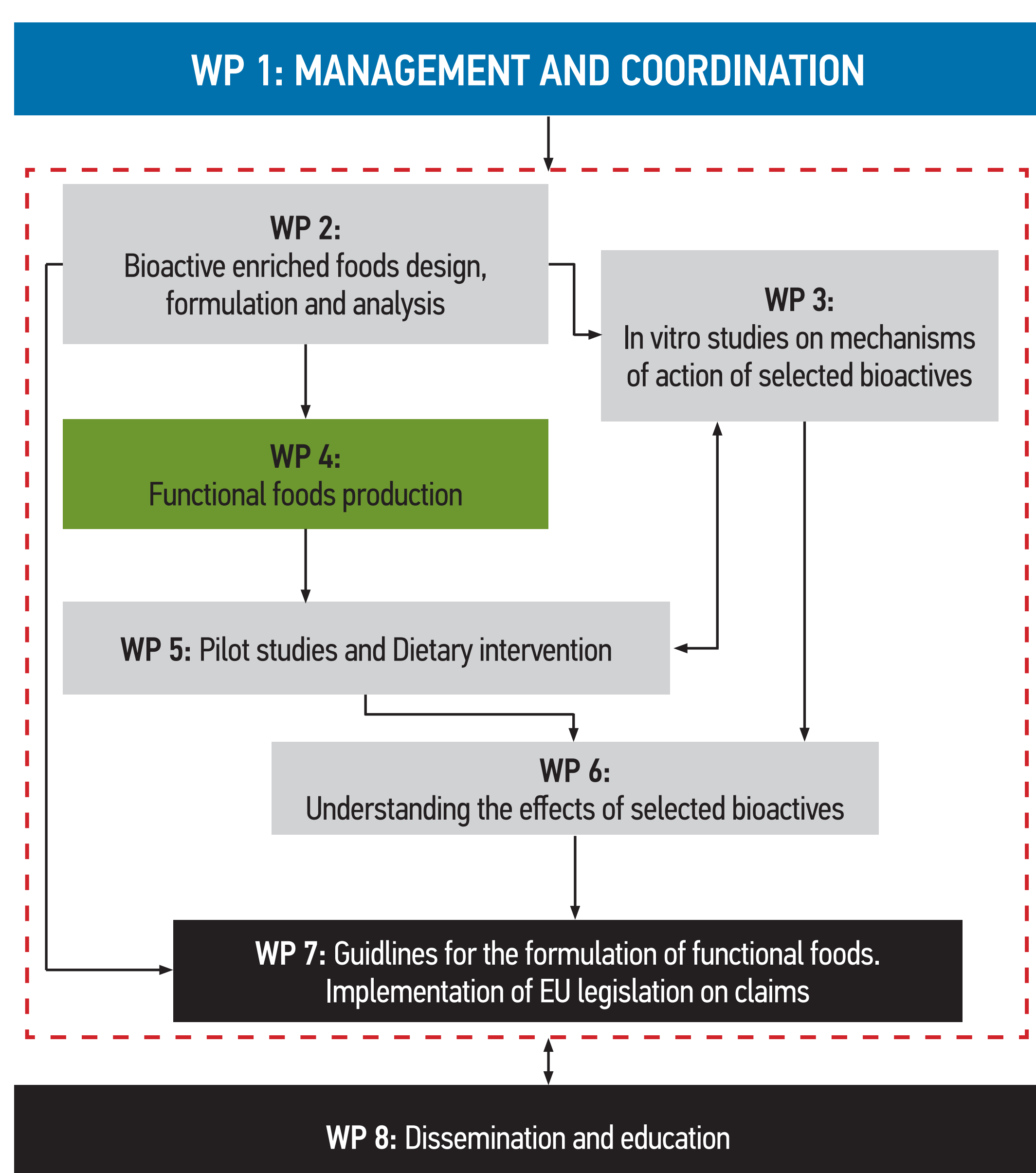


# PIVOTAL ASSESSMENT OF THE EFFECTS OF BIOACTIVES ON HEALTH AND WELLBEING. FROM HUMAN GENOMA TO FOOD INDUSTRY.

The **general objective** of PATHWAY-27 addresses the exploitation of bioactive compounds as ingredients of foods that, within the common diet, could significantly benefit human health and wellbeing. PATHWAY-27 uses three model compounds (docosahexaenoic acid - DHA, beta-glucan - BG, and anthocyanins - AC) and three model food matrices (bakery, dairy and egg products) to derive conclusions that will be widely applicable.

The **scientific objective** of PATHWAY-27 is to better understand the potential benefits and mechanism of action of the selected bioactive compounds (DHA, BG and AC), considered as ingredients of the PATHWAY-27 bioactive-enriched foods (BEF), in the prevention of the Metabolic Syndrome (MS).

The **technological objective** of PATHWAY-27 is to develop improved food formulations leading to the production of BEF with a scientifically demonstrated impact on health.



## WORKPACKAGES (WP):

**WP1:** Management and coordination

**WP2:** Formulation and production of foods enriched with DHA, BG, AC alone and in mixtures. Bioactives are not considered as discrete molecules, but as ingredients of BEF.

**WP3:** Understanding the mechanism of action of each bioactive compound (DHA, BG and AC) and their possible synergism through in vitro studies.

**WP4:** Extraction and purification of the selected bioactives from dietary sources, and their use for the production of BEF to be used in pilot and intervention studies.

**WP5:** Performing the pilot studies and the larger intervention studies which are essential to provide information on the effectiveness of the bioactive-enriched foods in the prevention of the MS.

**WP6:** Understanding in vivo by the use of 'omics' techniques the mechanisms underlying the effects related to the consumption of the PATHWAY-27 BEF, and selection of new biomarkers.

**WP7:** Preparation, publication and implementation of guidance documents that will inform and assist the food industry sector, especially SMEs, to produce BEF with supportive health claims according to the EU legislation.

**WP8:** Dissemination and technology transfer

PATHWAY-27 includes 25 partners broadly distributed in Europe: west to east, south to north Europe, including one Candidate Country (Turkey). The EU Consortium consists of different organisation types, namely: Universities, Research Institutes and SMEs.

## EXPECTED RESULTS:

Increased knowledge on bioavailability, activity, synergism and mechanisms of action of bioactive compounds when administered as integral parts of foods, not as supplements.

Guidelines and best practice for undertaking intervention studies as well developing and validating innovative biomarkers that are relevant to humans.

The possibility of improving the formulation of new BEF having a scientifically-validated positive effect on human health and wellbeing.

Increase in the innovation potential and competitiveness of SMEs (small and medium-sized enterprises).

Supporting the implementation of European legislation on health and nutrition claims.

## FURTHER INFORMATION:

**Dr. Alessandra Bordonì** (project coordinator)  
Alma Mater Studiorum UNIBO (Italy)  
**Tel:** +39 51 209 7861  
**E-mail:** alessandra.bordonì@unibo.it

**Dr. András Sebők**  
Campden BRI Magyarország Nonprofit Kft. (Hungary)  
**Tel:** +36 1 433 1470  
**E-mail:** a.sebok@campdenkht.com

