

## Thematic area

### Agro-food Value Chain



## Section II

**Topic 3.3** - Implications of dietary shifts and sustainable diets for the Med populations and food industry



## Budget

1.028.480,00 €



## Duration

36 months



## Project

### 33/MED4YOUTH

Mediterranean Enriched Diet for tackling Youth Obesity

## Context

Youth obesity is a strong predictor of adult obesity, which has well-known negative health and economic consequences. Thus, addressing adult obesity needs tackling youth obesity. MED4Youth main objective is to strengthen the link between the Mediterranean Diet (MD) and the health benefits against youth obesity and associated cardiovascular disease (CVD) risk factors, identifying the positive effects exerted by an energy-restricted MD including healthy products from the Mediterranean basis (hummus, mixed nuts and pomegranate) and sourdough bread. Secondary objective is to elucidate whether the health effects of MD are associated with changes in gut microbiota and gut-derived metabolites to shed light on the interplay between MD, gut microbiome, metabolome and youth obesity.

## Objectives

The novelty of MED4Youth project relies on, firstly, a multicentre clinical and MD-based study (4 months) including ICT educational tools specifically targeting 240 obese adolescents (13-16y) from different Mediterranean countries (Spain, Portugal and Italy); and secondly, on the application of omics technologies and a system biology approach, to elucidate whether the MD can shape the gut microbiota and gut-derived metabolites and unravel in the mechanisms by which MD exert its beneficial effects against youth obesity and CVD risk factors.

## Expected Impacts

MED4Youth will contribute to valorise MD products, especially scarcely consumed foods items in European Mediterranean developed countries (sourdough bread, hummus and pomegranate), promoting their consumption in the overall population, especially in adolescents and pave the way for a high, long-term demand of these products, fostering the competitive-

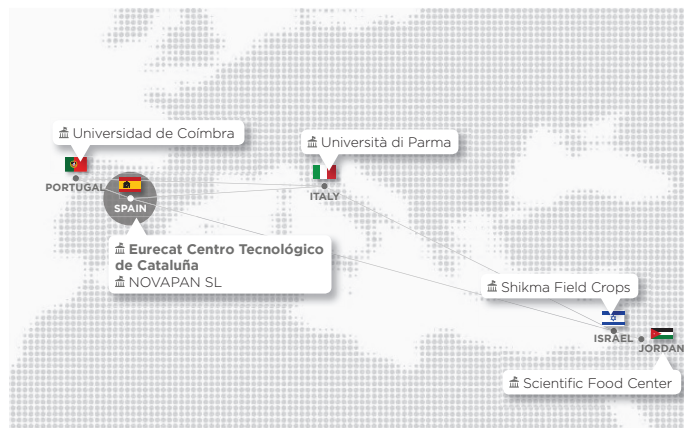
## Coordinating country

Spain

## Participating countries/ 5



## Partners/ 6



## Coordinating institution

Eurecat, Centre Tecnològic de Catalunya



Biotechnology Area

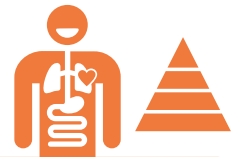
Scientific Coordinator:  
CAIMARI, Antoni  
antoni.caimari@eurecat.org

ness of processing industries and reinforcing local production systems. A multidisciplinary consortium will exchange best practices regarding MD adherence, creating common knowledge to foster long-lasting results and support policies to prevent and ameliorate obesity across the Mediterranean basin.

## Study of the obese adolescent population of Spain, Portugal and Italy on a sample of 240 subjects

### WORK PACKAGES

- Biomarkers of colonial origin
- Food consumption biomarkers
- Nutritional and educational applications
- New naturally leavened breads

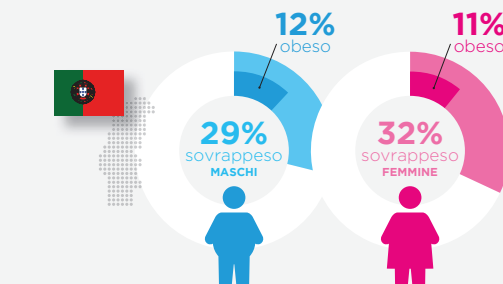
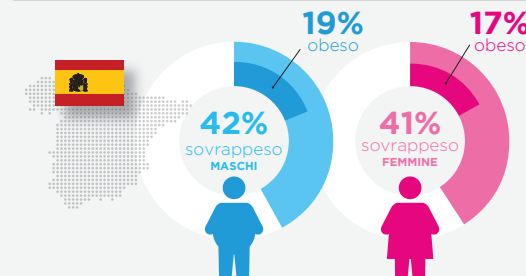
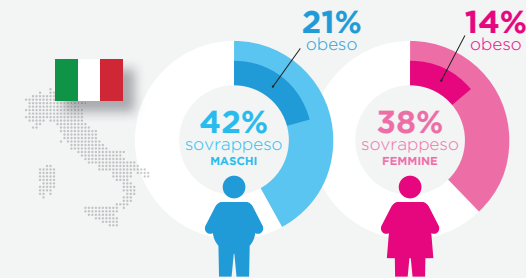


### EXPECTED RESULTS

Improvement in subjective well-being measured through the following indicators:

- ✓ BMI z score and waist circumference;
- ✓ WHO-5 Well-being index;
- ✓ analysis of microbial-derived metabolites (SCFA, organic acids, TMAO, LPS, bile acids) and in microbial genera (Lactobacillus, Bifidobacterium);
- ✓ achievement of a high adherence to the diet of the subject group.

### Overweight and obesity prevalence\* (%) COSI 2015-2017



\*Based on the 2007 WHO recommended growth reference for school-age children and adolescents (de Onis M, Onyango AW, Borghi E, Siyam A, Nishida C, Siekmann J. Development of a WHO growth reference for school-aged children and adolescents. Bulletin of the World Health Organization 2007; 85(9): 660-667). Children with a BMI/A Z-score < -5 or > +5 are excluded.