

THEMATIC NETWORK

CREA Research and Innovation Platforms and Infrastructures

NAME OF THE PLATFORM / INFRASTRUCTURE

BIOSAFETY LEVEL 3 LABORATORY (BSL3) for *in vitro* cell cultures. Food and Nutrition Research Centre



SHORT PRESENTATION OF THE INFRASTRUCTURE

The **BSL3 LABORATORY** is a specialized facility designed to work with biological material. Access is restricted to appropriately trained and authorized personnel. The laboratory is equipped with the facilities and safety measures to ensure adequate containment and prevent the release of potentially contaminated material. The laboratory is physically isolated from the surrounding areas of the building and from the external environment, through a dedicated ventilation system with no air recirculation, operating continuously. The laboratory is equipped with laminar-flow biological safety cabinets for the safe handling of biological agents and for personnel protection, as well as with all the equipment necessary to safely perform experimental procedures inside the laboratory.

ACTIVITIES AND EXPERIMENTAL MODELS: The studies conducted in the laboratory focus on addressing the complex relationship between food, diet and health or disease. In particular, the following experimental models are used:

Cell lines: reproduce the main characteristics of differentiated tissues and organs *in vitro*. They are used to investigate the biological effects of food matrices, bioactive molecules, and xenobiotics. Studies mainly focus on assessing intestinal bioavailability, elucidating the mechanisms underlying the beneficial effects of dietary components, and investigating potential toxic and/or inflammatory effects induced by contaminants.

Co-culture systems: to investigate the cross-talk that occurs *in vivo* between different organs. Examples include intestinal/hepatic cell co-cultures to study hepatic metabolism and intestinal/macrophage co-cultures to assess the effects of the bioavailable fraction on target tissues.

Blood samples obtained from human volunteers subjected to nutritional interventions: to investigate the profile of plasma metabolites.

CREA Centre	CREA-AN	Location	Roma (RM)
Contact person(s)	Marianna Roselli Giulia Ranaldi	E-mail(s)	marianna.roselli@crea.gov.it giulia.ranaldi@crea.gov.it
<i>In vitro</i> cell models, bioavailability, nutrition and health, diet-organism interaction		https://www.crea.gov.it/web/alimenti-e-nutrizione/laboratorio-biosicurezza-livello-2-livello-3	

