

Evaluation of the biological activity of extracts and bioactive compounds of natural origin in the inhibition of inflammation and related pathologies



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RESEARCHERS

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Research activity



The research activity is focused on basic research projects based on the ONE HEALTH principle. The activity mainly aims to evaluate the benefits for human health of compounds/extracts of ornamental plants or foods with particular attention to the principles of local biodiversity and bioeconomy.

Basic research:

In vitro food digestion methods

Study of cellular processes (growth, migration, tumor progression, angiogenesis)

Study of molecular signaling using biochemical and molecular biology techniques

Study of inflammatory mechanisms and their correlation with human diseases of inflammatory origin

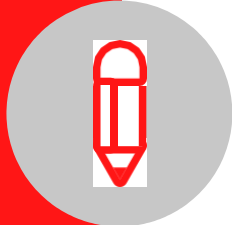
Know-how:

molecular biology, siRNA and plasmids, fluorescence techniques, PCR, cell cultures (primary and tumor cells), *in vitro* analysis of angiogenesis

Skills:

Biochemistry, drug characterization and development, cellular tissue characterization, molecular mechanisms of drug action.

Images



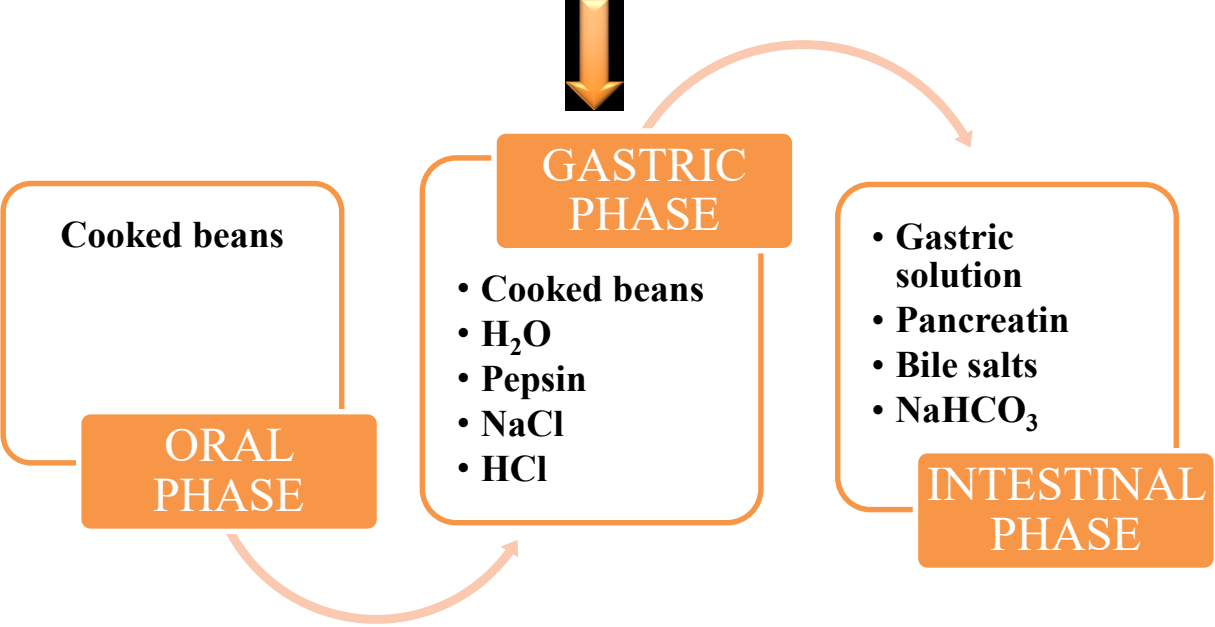
Specie erbacee
Fagiolo Fagiola di Venanzio
(Varietà Locale)
Fagiola di Murlo

FAMIGLIA: **Leguminosae**;
GENERE: **Phaseolus**;
SPECIE: **Phaseolus vulgaris L.**;
N. **VE_145** inserita il 20-12-2017

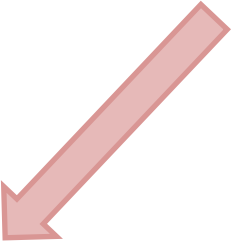


L'accessione e' a rischio di erosione genetica!
Il rischio di estinzione è da ritenersi elevato data la dimensione ridotta delle superfici coltivate e l'esiguo numero dei coltivatori. Al momento non è presente un mercato del prodotto, che è limitato all'autoconsumo. Non ci sono notizie della presenza della coltivazione di questa cultivar in altre zone italiane.

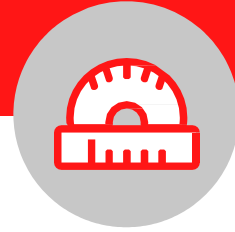
- Fagiola di Venanzio samples:**
- Soaking
 - Cooking
 - *In vitro* digestion



- Biological activity**
- Antiinflammatory
 - Antioxidant
 - Inhibition of proliferation of colon cancer cells
 - Autophagy induction in colon cancer cells



Technologies and services



Equipment:

Cell culture equipments -Spectrophotometer -Fluorimeter -Microscopy -PCR-Western blotting technique – Robot Assist Plus

Services:

Characterization of the biological activity of extracts or pure active ingredients in inflammatory diseases such as cardiovascular diseases and cancer (colon, lung, melanoma.....)

Applications
and
collaborations



The project allows you to:

- improve local biodiversity with important circular economy implications;
- identify nutraceuticals;
- develop food or cosmetic supplements based on natural products with a nutraceutical value to combat and prevent inflammatory diseases.

Regione Lombardia. PSR 2014-2020 – Operazione 10.2.01 “Conservazione della biodiversità animale e vegetale”. Project title: “Characterization of caigua cultivars from Lombardy for the conservation and valorization of innovative agro-food and medicinal resources (CAIGUA)”

PON Doctorate Project: «Enhancement of the agro-food chain of *Phaseolus vulgaris* L: agricultural production and biological and nutraceutical activities of native variants and recovery of industrial processing waste»



Reference industrial sectors:

R&D of herbal and pharmaceutical companies

Cosmetics and Nutraceuticals

For more information



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