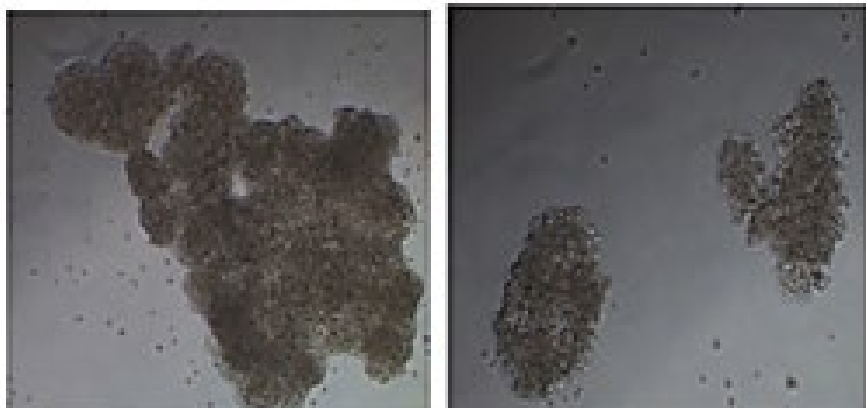


Technology Offer

CSIC/PL/001

## Legume derived nutraceuticals as radiosensitizing agents for tumor cells



**Natural nutraceutical to promote the prevention of the cancer stem cells (CSCs) phenotype acquisition at the origin of tumor regrowth, metastasis and relapse.**

### Intellectual Property

International PCT application filed

### Stage of development

Preclinical: *in vitro* studies in breast cancer cell models

### Intended Collaboration

Licensing and/or co-development

### Contact

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### Market need

Currently, breast cancer (BC) treatments, such as surgery, hormonal therapy, chemotherapy, radiotherapy and immunotherapy present significant limitations in efficacy and side effects, especially in the most aggressive molecular subtypes of the disease, making BC extremely difficult to treat.

For these reasons, is necessary the identification of new radiosensitizing agents increasing the sensitivity of tumor cells to radiotherapy (RT), particularly these coming from natural therapies for the prevention and treatment of cancer.



### Proposed solution

The present solution aims at the combined use of nutraceutical agents derived from legume crops, together with radiotherapy to enhance their efficacy. These compounds act as radiosensitizers and selective cytotoxic agents for BC, increasing the sensitivity of tumor cells to ionizing radiation (IR).

This could allow the implementation of a selective, effective and alternative therapy for various types of cancer, including breast cancer, avoiding the limitations and deleterious consequences of current treatments.

### Competitive advantages

- Dual action: cytotoxic and radiosensitizing for breast cancer cells.
- Delivery of IR in much lower doses to patients. Fewer side effects for the patients treated with IR.
- Selective therapy, reduction of tumor resistance, prevention of more aggressive phenotypes and decreased risk of metastasis.
- Nutraceutical compounds are environmentally sustainable.
- Scalable specific production method in different plants sources.