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Nationality: Portuguese

Orientation: Sustainable Use of Marine Resources

Specialization Area: Transformation and Valorization

Research Line: 2.17 Traceability, quality and safety of marine foods



PhD project: Evaluation of seaweeds protective effects against genetic damage induced by environmental radiation - towards marine resources valorization and human health promotion

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Summary: Radon is the major source of environmental radiation, being a carcinogen associated mostly with the development of lung cancer. In this context, it represents a particular threat to the population of Trás-os-Montes (Northeast Portugal), making the prevention of the genetic damage induced by this radiation a critical factor. Seaweeds have been defended as functional food. However, *in vivo* studies focusing seaweeds genoprotection are scarce, and there is a gap in the knowledge of the benefits of its integral intake. Its use on the reduction of the damages caused by alpha radiation is unexplored, constituting an innovative approach. Thus, it is intended to investigate the radioprotective potential of red algae (*Porphyra umbilicalis*, *Grateloupia turuturu*) aimed at the integrity of the genome, using experimental models and human volunteers. The antigenotoxic and antimutagenic potential, and the ability to potentiate the repair of genetic damage, will be evaluated. The proposal will be developed within a framework of marine resources valorization and health promotion.

