

Designação do projeto | Novas estratégias para a produção sustentável de peixe celular

Código do projeto | 2022.07677.PTDC

Data de início | 01/03/2023

Data de conclusão | 28/02/2027

Apoio financeiro Total | 247 610,45 €

Apoio financeiro Total do IPMA | 97 604,60 €

Summary | Cellular agriculture has the potential to revolutionize food production, by generating food in a bioreactor using animal cells rather than farming and sacrificing animals. Fish cellular agriculture has been often overlooked and CLEANFISH aims to disrupt the traditional processes involved in obtaining fish products using cellular agriculture strategies based on three main innovative drivers:

1. Explore electrical stimuli and delivery of key compounds for fish cell differentiation/maturation into muscle tissues;
2. Manufacturing of hybrid edible materials combining algae and fish cells to improve the nutritional and organoleptic properties of the cells biomass to be used on fish muscle manufacturing;
3. 3D bioprinting optimised for optimal deposition of adipose and muscle fish tissues to recreate with a high level of detail the fish fillet.

The aim is to create a sustainable fish protein alternative that is well accepted by consumers.

Furthermore, CLEANFISH also aims to establish and validate methodologies to assess the:

- i) Nutritional and sensory profiles (e.g. chemical composition, texture, taste and appearance) as well as safety and authenticity of cell-cultivated fish fillets,
- ii) Ecological impacts - CleanFish expect to provide unbiased information on the ecological impacts of fish cell agriculture compared to fishing and aquaculture practices. Life cycle analysis will be applied and novel indicators will be developed to specifically assess the ecological impact of cell-cultivated fish fillets production.

Instituições | Associação do Instituto Superior Técnico para a Investigação e o Desenvolvimento/Instituto de Bioengenharia e Biociências (IST-ID/iBB); Instituto Português do Mar e da Atmosfera-IPMA, I.P.

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