UNIVERSITY OF LIMERICK
OLLSCOIL LUIMNIGH

Technology Transfer Office

Licensing Opportunity

Oil extract from salmon heads with CARDIO protective activities

Overview

Currently, there is a gap in the nutritional market for an oil that can be used in a supplement or nutraceutical along with current medications and that reduces cardiovascular risks (CR). UL-oil is a bioactive ingredient that contributes specifically to reducing human platelet aggregation and so minimizes the risk for cardiovascular diseases (CVDs) and other chronic disorders associated. This food-grade oil is extracted from organic Irish-farmed salmon, a sustainable source.

Technology

UL oil, with a defined formulation, is food grade and sustainable, on the contrary, krill oil, the closest competitor, is unsustainable. UL oil is extracted from salmon fillets and heads using a method developed in-house. It comprises 80% polar lipids (PL) and 20% astaxanthin (a natural antioxidant), being a benchmark in comparison to other commercial marine oils. Researchers have studied the in-vitro and ex-vivo bioactivities of this UL oil and found that it inhibits the aggregation of platelets, a marker for cardiovascular risk, hence reducing CR and inhibiting the onset of CVD (cardiovascular diseases).

Benefits

Currently, most marine oil supplements (fish, krill, and algal) promoting benefits for heart health have shown no efficacy in clinical trials. However, UL (University of Limerick) researchers have proved that a food-grade oil that can be extracted from organic and sustainable salmon Irish farmed has bioactivities in reducing cardiovascular risk (CR) and inhibiting the onset of CVD (cardiovascular diseases). This technology has been proved in a standardized test based on platelet aggregation acceptable to European Food Safety Agency for making claims about reducing CR. Using UL oil in nutraceutical products will enable producers to make specific claims about reducing CR rather than general “healthy heart” claims.

Applications

According to the Frost and Sullivan report (2019): i) The global nutraceutical market is expected to grow at a CAGR (Compound Annual Growth Rate) of 3.2% globally and be worth $563M by 2025. ii) the krill oil (considered a UL-oil direct competitor) products market in the US and Europe in 2020 is worth $162.8M and $74.8M, respectively.

Valorizing salmon heads (a by-product of Irish aquaculture) to produce high-added value ingredients has the potential to have a positive economic impact on the fish industry.

Commercial Opportunity

The University of Limerick is interested in seeking partners to exploit the commercial potential of these technologies by entering into licensing agreements. Target Market for Innovation: aquaculture industry, functional food industry, bulk ingredient companies, and nutraceutical industry.

UL plans to position UL-oil against the Krill Oil (AKER BioMarine's Superba Krill product) part of the omega-3 nutraceutical and supplement market. There is a gap in the supplement market for ingredients with proven cardioprotective activities.

☐Development partner

☐Commercial partner

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☒Licensing

☒University spin-out

☐Seeking investment

Further IP information, links, etc.

1.

Patent Title: Novel food-grade extraction techniques for isolating bioactive polar lipids with antithrombotic properties,

Type: Parent provisional

Country: Greece

Status: Filed

Priority Date: 15-Mar-2022

Application number: 249-0004505103

2.

Patent Title: Polar Lipids

Type: Provisional

Country: Europe

Status: Filed

Priority Date: 15-Mar-2022

Application number: GB 2207747.3

Publications:

Tsoupras et al (2019) Bioprospecting for antithrombotic polar lipids from salmon, herring, and board fish byproducts. Foods 8(9) 416. *https:*//doi.org/10.3390/foods8090416

Contact

Margaret Lawlor

Technology Transfer Office

University of Limerick

email: margaret.lawlor@ul.ie