NUTRACEUTICAL ENCAPSULATED BY MICROFLUIDIZATION WITH ANTI-INFLAMMATORY AND PROBIOTIC EFFECTS	
Offering Organization:	Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C.
Type of Organization:	Public Research Center
Development Stage:	Commercial Concept Tests
Desired Relationship:	– Technological research and development financing (technological partner) – Specialized application tests – Creation of a new company (Joint Venture) for the commercialization of the products outlined herein – Licensing of patents
Sector:	Food
Area of knowledge:	Food Technology
Key words:	Nutraceutical, microfluidization, anti -inflammatory, probiotic

DETAILED DESCRIPTION:

Problem to be solved:

Currently, encapsulated products based on fatty acids by means of diverse physical, chemical and physicochemical processes, exist. The main techniques of the micro encapsulation of oils rich in polyunsaturated fatty acids are achieved through spray drying, fluidized bed coating and extrusion such as polymer gelatinization and coacervation with a subsequent intertwining. These processes are focused on the physicochemical stabilization of polyunsaturated fatty acids in the barrier material that minimizes the diffusion of oxygen using barrier materials such as modified starches and natural gums. However, there is currently no physicochemically stable, micro-fluidized product which combines inflammatory and prebiotic effects.

Solution:

Provide a nutraceutical encapsulated via micro-fluidization, with inflammatory and prebiotic effects and a high content of DHA and EPA, that promotes faster consumption by intestinal microflora while facilitating digestion and subsequent absorption of the product ingredients thanks to the combination of prebiotic materials and polyunsaturated fatty acids in the same micro-fluidized food matrix.

New and Innovative Aspects:

We refer to a nutraceutical encapsulated via micro-fluidization, with anti-inflammatory and prebiotic effects, that allows for the growth of probiotic bacteria that do not inhibit the function of said-acids helping/assisting with digestion.

TECHNICAL CHARACTERISTICS:

The present invention relates to a nutraceutical encapsulated via micro-fluidization with anti-inflammatory and prebiotic effects, which consist of:

a) Fatty oils from minimally-processed fish eye with a high concentration of:
   i. Eicosapentaenoic acid (EPA)
   ii. Docosahexaenoic acid (DHA)
b) Barrier Materials:
   i. Colloids
   ii. Materials with prebiotic effects

Main advantages derived from its utilization:

- The nutraceutical encapsulated via micro-fluidization, with anti-inflammatory and prebiotic effects and inhibiting the enzyme ciclooxigensa 2 (COX-2), is involved in the inflammatory process and reduces carrageenan-induced edema in rodents.

Applications:

- Food and food supplements

INTELLECTUAL PROPERTY

- Patent filed in 2012
- MX/a/2012/011905

ABOUT THE OFFERING ORGANIZATION

Presentation:	El Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C. (CIATEJ) is a public research center that belongs to the national technology development and innovation network, the National Council for Science and Technology (CONACyT). CIATEJ is focused on the agricultural, food, health, and environmental sectors with an emphasis on the application of innovative biotechnology.
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