

EXOPOLYSACCHARIDE 3 – Plankton Extract

Related ingredient: *EPS SEAFILL*

EXOPOLYSACCHARIDE 3 is a solution of a unique, pure and natural ExoPolySaccharide (EPS) produced by marine plankton.

EPS 3 is mainly composed of galactose, galacturonic acid, glucose, glucuronic acid and mannose, and has a high molecular weight: >1.4 millions dalton.

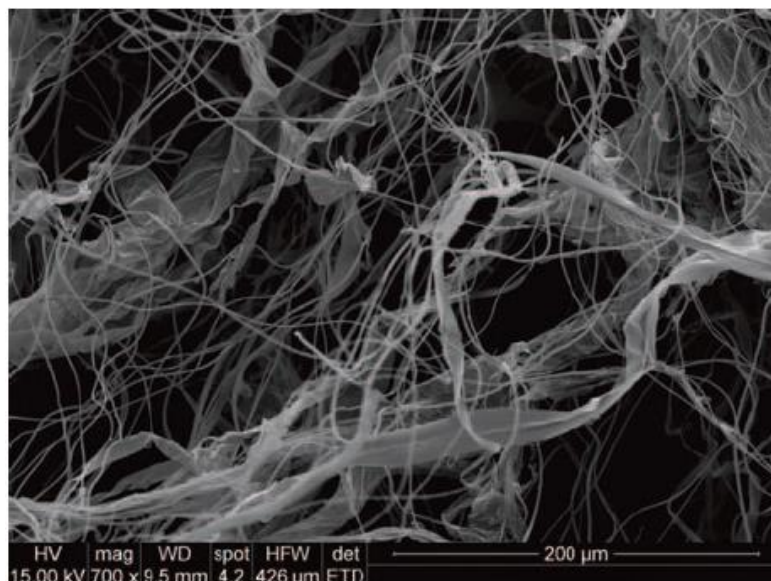


DEFINITION OF AN EXOPOLYSACCHARIDE

ExoPolySaccharides, also called EPS, are high molecular weight polymers mainly composed of sugars. They are produced and secreted by micro-organisms directly into their environment to provide protection, nutrition or adhesion.

Each micro-organism produces its own specific Exopolysaccharide with its own unique sequence of sugars. The Marine Exopolysaccharides like **EPS 3** have no land based equivalent and represent a new and original source of molecule.

Due to its unique composition, each Exopolysaccharide possesses unrivalled surface, texture and cellular activation properties.



View of a Marine Exopolysaccharide under a scanning electron microscope

THE ENVIRONMENT FROM WHICH EXOPOLYSACCHARIDE 3 IS DERIVED: MER D'IROISE

EXOPOLYSACCHARIDE 3 is produced from a plankton micro-organism isolated from the Mer d'Iroise, on the coast of Brest in Brittany, France

The **Iroise Sea** (French: *mer d'Iroise*) is the part of the Atlantic Ocean which stretches from the Ile de Sein to Ushant off the coast of Brittany in north-western France. It borders the Celtic Sea to the north and west and the Bay of Biscay to the south. It is one of the most dangerous seas in Europe. In winter, there are often violent storms with huge waves. But it is also considered to be one of the richest areas for marine life leading to its inclusion as one of UNESCO's biosphere reserves in 1988 and as France's first marine park in October 2007.



The area where the plankton micro-organism is collected still has a number of small *zostera*, sort of marine seagrass which provides protection and nutrition. It is also a reproduction area and hatcheries for a large number of small organisms and micro-organisms. It is the natural environment of the famous hippocampus.

In this ecosystem Exopolysaccharides play a major role for trapping essential nutrients for the growth of small organisms.

On the left:
Iroise Sea
Source:
[sosduneterrienneendetres
se.s.o.pic.centerblog.net](http://sosduneterrienneendetres.se.s.o.pic.centerblog.net)



On the right:
Photography of a
zostera



Etymology

The name *Iroise* is first recorded in the *Neptune françois* of 1693 as **Le Passage de l'Yroise** (*passage* = "channel"); as **Passage de l'Iroise** in the 18th century; as **Iroise** in the 19th century; and as **mer d'Iroise** (*mer* = "sea") in the 1970s, by the seabed exploration industry. The name appears to have been decided not by local seafarers but rather by the naval base at Brest.

The meaning of *Iroise* is obscure; theories include:

- from the Old French *Iroise* meaning "Irish", denoting the route from France to Ireland
- from a dubious Old French adjective *iroise* meaning "angry", referring to the rough seas.
- from Breton *hirgwaz*, *hir* "long" + *gwaz* "stream, channel"
- From the Breton *ervoas* "deep", referring to the Atlantic Ocean, in contrast to the shallow English Channel

Marine Park

The Iroise Sea is rich in flora and fauna. It is especially well known for its seabass, its shoals of dolphin, seals, sea otters, lobsters and, on occasion, sunfish, basking shark and even whales. There are also many varieties of seabird including cormorants, guillemots and herons. This sea is also recognized as the richest environment for seaweed in Europe with some 300 species. As a result, on 2 October 2007, after years of debate and discussion, the French authorities created the country's very first marine park, officially labelled *Parc naturel marin d'Iroise*. The three main objectives are to increase knowledge of the marine environment, to protect the area's habitats and species and to develop marine activities of all kinds.

Source : en.wikipedia.org

PRODUCTION OF THE EXOPOLYSACCHARIDE 3

EXOPOLYSACCHARIDE 3 is produced from a planktonic micro-organism. Isolated and qualified, this micro-organism is cultivated in bioreactor in which it secretes its exopolysaccharide directly in the culture medium.

Then we use sophisticated purification systems to obtain a high purification degree of EPS 3.

Guaranties of the production process

- Synthesis totally controlled
- Reproducibility of the chemical structure
- High purity of the molecule

This process allows the manufacture of PURE and 100% NATURAL molecules.



Picture of a bioreactor used to cultivate the micro-organism which produces EPS SEAFILL