Pharmaceuticals, Cosmetics and Fine Chemicals

A range of medical and high value chemicals have been produced from fish and shellfish. Antifreeze proteins have been extracted from the blood of cold-water fish. These glycoproteins are known to protect mammalian cells at cryogenic temperatures, and have found uses in the cold storage of donor tissue and organs. Deoxyribonucleic acid (DNA) is commercially extracted and purified from cod, herring and salmon milt in Tromsø, Norway for pharmaceutical use. The DNA can be further processed into the drug AZT, which has been used in the treatment of HIV. Research has been carried out into glycogen poly-sugars which are contained in the stock left over from boiling scallop processing waste. The sugar has been shown to have anti cancer properties when injected into animals at a dose of 200 mg. Squalene is a naturally occurring hydrocarbon found in some plant and fish oils. It is commercially extracted from shark livers. Squalene has been used to treat diabetes, cancer and tuberculosis in Japanese hospitals. It also has anti-fungal and antioxidative properties, providing scope for other pharmaceutical and cosmetic uses. Purified squalene currently retails at about £200 per litre.

It is not realistic for individual seafood businesses to try to emulate established pharmaceutical companies in producing these types of products. Because of the high capital investment and level of specialist expertise required for each utilisation route, the most effective solution for the seafood industry would be to work with and supply existing pharmaceutical companies.

Useful links

- None available at this time