



Biosurfactant

Researchers at Aston University have identified a novel nanostructured material, which is ideally suited to medical and cosmetic applications. Aston's Business Partnership Unit is now actively seeking commercial partners to license this unique new material.

Highlights

- A potentially superb vehicle for drug delivery
- Readily solubilises fatty materials such as drugs into aqueous solution
- Easily formed without the use of any specialist equipment
- Wide range of consistencies possible, from a low viscosity solution to a viscous gel
- Polymer component approved for human use in Japan
- Low toxicological risk

Background

Many active drugs are characterized by poor aqueous solubility, sensitivity or instability, and thus suffer from suboptimal delivery efficiency. Some newer pharmaceuticals, especially those based on gene therapy in which the drug to be delivered consists of therapeutic genetic fragments, need a carrier vehicle for protection and for facilitating up-take by target cells. The food and cosmetics industries also require efficient and

non-toxic solubilising agents, and there also exists a need for biologically stable lubricants and surfactants that are not derived from animal material.

The Technology

Research at Aston has led to the development of a novel nanostructured material that acts as both a lubricant and a surfactant, and subsequently as a delivery agent for pharmaceuticals and cosmetics. The new material consists of minute sheets of lecithin surrounded by a water soluble synthetic polymer in a doughnut arrangement. The material is produced with a combination of synthetic polymers and natural fats and mimics the size and orientation of nanostructures found in nature, such as lipoprotein assemblies. The polymer used has previously been employed in an injectable anti-cancer medication, and is therefore approved for human use.

Intellectual Property Protection

This technology has received broad patent protection:

<i>Title</i>	<i>Patents Granted</i>	<i>Priority Claimed</i>	<i>Our Ref</i>
Lipid Containing Surfactant Solubilising Compositions	US 6,436,905 EP 1007002 CA 2301711 SG 70867 NZ 502839 AU 752508	August 22, 1997	PAT-2004-012

Further Information

Further information can be made available and commercial discussions commenced on entering into a non-disclosure agreement.

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