BIOCHEM show case

# New active ingredients for sunscreen

## Problem

**The multi-billion-dollar-per-year market for sunscreens is driven by consumers who are better informed about the link between overexposure to the sun and skin cancer and sunlight's effects in giving skin an aged appearance.**

**Sunscreens protect against skin cancer by shielding the body from two types of UV light. One is UV-A, which absorbs deep in the skin and is linked to reactive oxygen species (ROS) formation. The other is UV-B, which causes sunburn. Some sunscreens ingredients generate ROS when exposed to UV-A, which can damage DNA. For years, the sunscreen industry focused on offering UV-B protection to prevent sunburn.**

**However, concerns have arisen over certain ingredients in today's mainstay sunscreens with some identified as suspected hormone disruptors in aquatic environments.**

## Technical solution

**Using ferulic acid (an abundant component of lignocellulose) and vegetable oil, iSoy Technologies produces biolipids via a natural enzymatic process. Its first anti-ageing active, feruloyl soy glyceride (FSG), is prepared by enzymatically stripping away the fatty acids from soybean oil and then combining the intermediates with ferulic acid via fermentation. This process creates a bio-based formulation that allows the formerly water-soluble active to be carried into the body where it protects by absorbing UV-A and UV-B light as well as offering anti-wrinkle properties.**

**The process is also effective for other oils and actives, such as phenolic acids, amines, dicarboxylic acids and terpenoids. The modified oils containing these actives are readily absorbed into hair and skin. The company developing a line of biolipid soaps and shampoo and conditioner targeted for colour-treated hair.**

# Benefits

- **Bio-based feedstock**
- **Enzymatic process to produce the ingredient**
- **No end-of-life environmental concerns**

# Additional information

**iSoy Technologies**

**Website**

**http://isoytech.com/**