

## The Opportunity

Extracts of deep-ocean bacteria as cosmeceutical ingredients –  
**methyltetradecanoic acids (MTA)**

### Technology

Marine microorganisms, particularly deep ocean microbes, contain a mixture of complex fatty acids within their bacterial cell walls. These fatty acids can be extracted from the bacteria using simple solvent systems. One of the main fatty acids is 12-MTA (methyltetradecanoic acid) having potent anti-inflammatory properties. MTA is a potent inhibitor of the 5-LOX (lipoxygenase) enzyme system that transforms essential fatty acids into leukotrienes that can be proinflammatory.

### Potential Applications

- Skin Care and Hair Care
- Creams and lotions
- Color cosmetics
- Shampoos
- Shaving creams/lotions
- Antiperspirants
- Sun care products
- Conditioners
- Depilatories

### Advantages

- Bacterial fatty acid exhibit anti-inflammatory and other pharmacological properties<sup>♦</sup>
- Can be applied dermally
- Ease of formulation
- Isolated from renewable resource

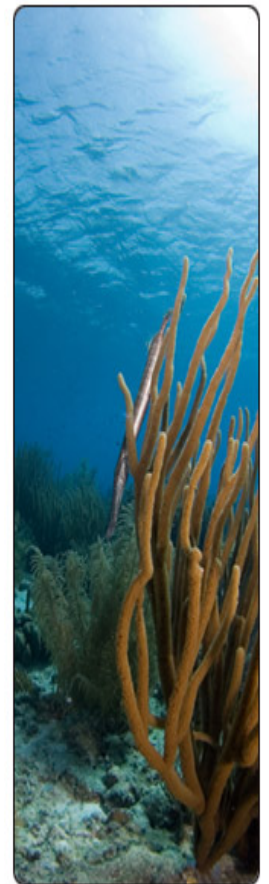
### Magellan BioScience Capabilities

MAGELLAN BIOSCIENCE can supply samples of MTA produced by marine bacteria.

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<sup>♦</sup> Yang Peiyong, et al., *Inhibition of proliferation of PC3 Cells by the branched-chain fatty acid, 12-MTA, is associated with inhibition of 5-lipoxygenase*, The Prostate 2003; 55: 281-291.