



TECHNOLOGY

Natural Method for the Production of Neoagarobiose

OVERVIEW

Background

Increasingly consumers are interested in purchasing products that contain natural ingredients. One market that has seen an increase in natural ingredients is personal health care products. The perceived health benefits from natural materials and avoidance of unnecessary chemicals is often what drives these purchasing decisions. However, natural elements can be difficult or costly to produce and may not perform as well as their synthetic counterparts.

Commonly added to food and personal care products as a thickening agent, agar is a seaweed-derived product comprised of numerous agarose polymers. Neoagarobiose is the base unit of agarose that functions as a moisturizer for skin care as well as having mild skin lightening properties. Unfortunately, it is not commercially available due to the difficulties in breaking agar and agarose down into neoagarobiose.

Innovative Technology

Researchers at the University of Maryland have identified the genes used to encode marine bacterial enzymes that effectively degrade agar into neoagarobiose. The researchers have cloned the genes into a common vector with a C-terminal His tag for easy purification. The simple production of these enzymes allows for the simple conversion of agar into neoagarobiose allowing for its use in consumer products for the first time.

Advantages

- Natural process for the production of neoagarobiose

Applications

- Production of natural skin moisturizing ingredient

CONTACT INFO

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Additional Information

INSTITUTION

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CATEGORIES

- Natural Compounds

EXTERNAL RESOURCES

- [US Patent 8,795,989](#)

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