

TECH OFFER

Natural Tyrosinase To Skin Whitening

KEY INFORMATION

TECHNOLOGY CATEGORY:
Personal Care - Cosmetics & Hair

TECHNOLOGY READINESS LEVEL (TRL): **TRL3**
COUNTRY: **SINGAPORE**
ID NUMBER: **TO174173**

OVERVIEW

Skin-whitening ingredients are widely used in the cosmetics industry. Tyrosinase inhibitors are a chief chemical component of skin-whitening agents because of their ability to inhibit the formation of melanin pigments in the skin. In addition to the cosmetics industry, tyrosinase inhibitors also have applications in the food and agriculture industry, due to their anti-browning ability. Many of the currently-used tyrosinase inhibitors are chemically-synthesized and have cytotoxic side effects, which can cause problems such as skin irritation. There are naturally-derived alternatives to these chemical compounds, such as kojic acid. Unfortunately, these naturally-derived tyrosinase inhibitors either have very high production costs or low potency (such as kojic acid).

TECHNOLOGY FEATURES & SPECIFICATIONS

A research team created a new formulation that contains potent tyrosinase inhibitors. Drawn from a crude extract of the traditional medicinal plant, laboratory analyses of the active ingredient in the new formulation shows higher potency levels than other naturally-derived tyrosinase inhibitors, based on lower IC50 values (the concentration of the compound at which 50% of the kinase activity is inhibited). This formulation has multiple inhibitors present, which work synergistically to effectively suppress pigment formation mediated by tyrosinase. Plants were grown under optimal conditions, to ensure maximal levels of tyrosinase inhibition.

POTENTIAL APPLICATIONS

Ready for use in cosmetic skin products, particularly skin-whitening agents. In addition to the cosmetics industry, tyrosinase inhibitors also have applications in the food and agriculture industry. This product is completely natural and environmentally-friendly. It not only contains powerful skin-depigmentation properties but also has reduced side effects and cytotoxicity levels, as well as lower production costs compared to other tyrosine inhibitors. As the plant is used as traditional medicinal, there is the potential to use this product as a dietary supplement too.

BENEFITS

- More potent than currently-used products
- Fewer side effects than currently-used tyrosinase inhibitors
- Naturally-derived and environment-friendly
- Lower production costs