



Squalene produced in yeast

Squalene acts as a booster for potential vaccines against SARS-CoV-2. However, the richest squalene source, shark liver, can and should not be exploited further. Yeast cell factories can be designed to produce high amounts of squalene.

BACKGROUND

Squalene is a natural oil that is omnipresent in all domains of life. The compound has proven to act as a booster for vaccines, eg. against SARS-CoV-2, and improves the uptake of the serum and the stability of the immune reaction. However, highest yields of squalene have been derived from shark liver oil so far. With increasing demand of squalene, the sharks' life will be in danger: the production of 1 ton of squalene requires approximately 3000 sharks.

TECHNOLOGY

In order to save sharks because of an increased demand of squalene for vaccination campaigns, acib proposes to produce squalene in yeast. A *Saccharomyces cerevisiae* strain modified for sterol biosynthesis produces increased levels of squalene. Metabolic and bioprocess engineering approaches have improved this effect in laboratory scale.

OFFER

Under protection of a CDA/NDA we provide you with a professional strategy for producing squalene on industrial scale. Any IP developed in such a project would fully belong to the investor/industrial partner.



Image: Shutterstock

EXPERTS

Prof. Dr. Harald Pichler
Dr. Tamara Wriessnegger
Dr. Anita Emmerstorfer-Augustin

AVAILABLE FOR

- Investments
- Joint Research Projects
- Contract Research

DEVELOPMENT STATUS

Technology Readiness Level 3-5
(Technology validated in lab)

IPR

Will be generated for our
industrial partner / investor

KEYWORDS

- Squalene
- SARS-CoV-2
- Vaccine booster
- High yield
- Yeast cell factory

CONTACT

acib GmbH, Krenngasse 37, 8010 Graz

☎ +43 316 873 9316

✉ bd@acib.at

🌐 www.acib.at