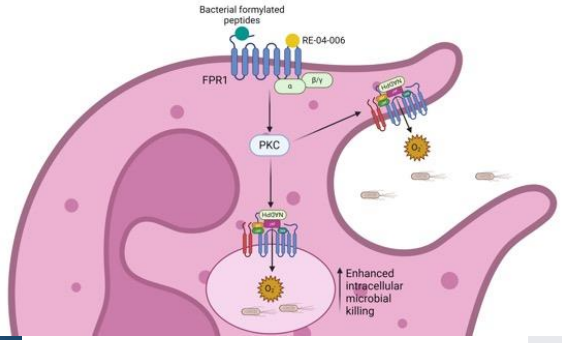
Small Molecule FPR1 Agonists: Boosting the Innate Immune System - to Cure life-threatening Bacterial Infections without causing antibiotic resistance

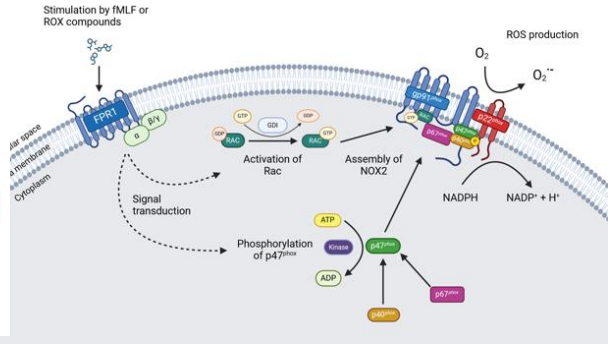
Targeted patient group

Chronic and life-threatening infections treated with suboptimal antibiotics – to boost the innate response may treat infections and save millions of patients.

Patients with hard-to-treat, recurrent chronic and life-threatening bacterial infections treated in hospital with anti-infective therapies, i.e. antibiotics (IV, or topical)

Of main medical and commercial interest in high-income countries and **UTI (U. coli) and infected wounds (S. aureus and P. aeruginosa)**





Activation of FPR1 stimulates the immune system to induce bacterial killing to resolve life-threatening infections without directly affecting the bacteria. No toxicological effects or effects on cell viability have been observed.

Scientific rationale for target

FPR1 selective agonist with very high /**single nM potency and unique pharmacology (solubility)**

FPR1 is well known and characterised as an innate immune target for anti-bacterial responses

To recruit and activate a more robust innate immune response is a natural way to combat infections

No direct effect on bacteria, but boosting the innate immune system – synergy with suboptimal antibiotics

The natural variation in FPR function leads to a subset of humans being more sensitive to infections.

Status

Well-characterised **single nM Ec50– selective FPR1 agonists lead compounds** for optimisation and CD selection

Patent application filed (September 2024)

Validated In Vitro effect, against several bacterial strains

Objective and plan

Lead optimisation based on selected primary lead structures.

ADME profiling, PK and formulation

Ex Vivo target activation, selectivity and efficacy

Upscale synthesis for preclinical In Vivo models and PK

Preclinical POC wound and UTI models (rodent and pigs)

CD selection Upscaled synthesis for regulatory tox

CEO: Peter Olofsson-Sahl, PhD, MBA E.mail: peter.olofsson-sahl@inicure .com

inicure