

BEST-IN-CLASS *P. AERUGINOSA* LASB VIRULENCE FACTOR INHIBITORS

Keywords: Elastase, LasB, virulence inhibitor, pathoblocker, lung infections

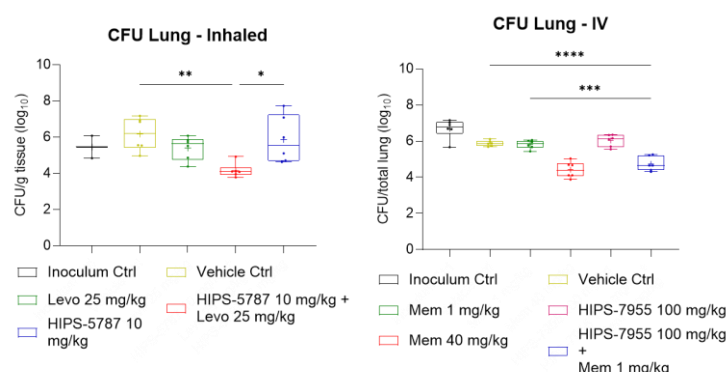
INVENTION NOVELTY

Best-in-class inhibitors targeting the extracellular zinc metalloprotease LasB, demonstrating exceptional activity and safety profiles, to different *Pseudomonas* infections.

VALUE PROPOSITION

- **Main target:** LasB contributes to tissue damage and suppresses the immune system during infection
- **Adjunctive therapy candidate:** Combining LasB inhibition with levofloxacin or meropenem significantly reduces bacterial burden without interfering with the antibiotic mechanism
- **Excellent safety profile:** No cyto- or genotoxicity, no off-targets, nor activity towards the most relevant human metalloproteases and further 87 possible human off-targets

These features highlight the potential to meet an unmet medical need in *Pseudomonas* infection management.



Antibiotic efficacy in models of *P. aeruginosa* infection with two different delivery methods (Konstantinovic et al., 2023).

TECHNOLOGY DESCRIPTION

- **In vitro activity:** Low to sub-nM IC₅₀ values
- **In vitro and in vivo ADME/T:** Good solubility, excellent plasma- and metabolic stability, and good tolerability
- **In vivo target engagement:** Reduction of cfu/g of tissue, circulating LasB, and clinical scores in two infection models. Prolonged survival of mice under adjunctive therapy
- **Anti-keratitis effect:** Synergistic and significant effect when given in combination with meropenem (0.5 mg/ml)

COMMERCIAL OPPORTUNITY

The technology is available for co-development and in-licensing partnerships.

DEVELOPMENT STATUS

Proof-of-concept in *Pseudomonas* lung infections, as well as *Pseudomonas* keratitis mouse models.

PATENT SITUATION

Two international PCT applications have been filed (WO2022043322A1 and WO2023166039). National phases were initiated in 2023 in EP, US, CN, JP, AU, IL, and CA. Another European-priority application was filed in May 2024 (EP24 178 040.2).

FURTHER READING

Inhaled formulation – [Konstantinović et al., 2023, ACS Cent Sci., 9, 2205-2215.](#)

IV formulation – Unpublished.