



UPL 

Compounds with biological activity against rice blast disease

Agriculture

Background

Rice blast, caused by *Pyricularia oryzae*, is among the most significant plant diseases affecting global rice production. This pathogen causes major yield losses by damaging both leaves and shoots (neck) of the rice plant.

Control strategies currently rely heavily on a limited set of fungicides, with roughly 60% of the market depending on just three FRAC groups: Triazoles (demethylation inhibitors, Group 3), Strobilurins (quinone outside inhibitors, Group 11) and Tricyclazole (melanin biosynthesis inhibitors, Group 16.1). These fungicide classes, each containing widely used and cost-effective active ingredients, are facing mounting regulatory pressure due to concerns about their environmental persistence, toxicity profiles, and long-term safety.

Regulatory bans and restrictions in key markets such as the European Union are already limiting the options available to rice-exporting countries. This trend raises serious concerns about the long-term viability of current control measures and signals a growing need for more sustainable, effective, and globally compliant alternatives to manage this destructive disease.

What we're looking for

We are looking for compounds from any origin (e.g., natural extracts or synthetic molecules) with potential biological activity against rice blast.

Our must-have requirements are:

- Identified substances with CAS number, structural formula, or brief origin description
- Preliminary evidence of biological activity against rice blast (lab, greenhouse, or field)
- Physicochemical properties compatible with field application (e.g., room-temperature stability)
- Preliminary data on selectivity or safety on rice plants

Our nice-to-have's are:

- Data on compound stability over time and under variable conditions
- Initial insights into mode of action or target pathway
- Preliminary physicochemical characterization (e.g., solubility, pKa, etc.)
- Structural formula available
- Has an estimated cost of goods sold (COGS) or transfer price range

What's out of scope:

- Active ingredients with known modes of action included in the most relevant FRAC groups (Groups 1, 3, 6, 7, 11, 16.1)
- Substances with obvious potential regulatory constraints, such as compounds with known or suspected CMR (carcinogenic, mutagenic, or reprotoxic) or ED (endocrine disruptor) activity, microplastics, and restricted solvents

Acceptable technology readiness levels (TRL):

Levels 3-9

1. Basic principles observed
2. Concept development
3. Experimental proof of concept
4. Validated in lab conditions
5. Validated in relevant environment
6. Demonstrated in relevant environment
7. Regulatory approval
8. Product in production
9. Product in market

What we can offer you

Eligible partnership models:

Co-development
Supply/purchase
Licensing
Material transfer
Consulting project
Capstone project

Benefits:

Expertise

We have a group of Global Experts in Phytopathology, Product Development and Regulatory Science to boost knowledge of candidate substances.

Facilities and Services

We count on our own network of Labs, Greenhouse and Field Research Stations worldwide where we can test candidate substances at all levels. Moreover, we are a multinational company having worldwide access to market.

Market Access

We are a strong multinational company with direct access to market worldwide.

Reviewers

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