



Technology Offer

Novel compounds for plant disease control

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Plant pathogenic fungi, oomycetes and bacteria have highly diverse lifestyles, infection strategies and morphologies. Therefore, pesticides frequently target basic cellular processes, as these are well characterized and often very similar among plant pathogens. Many pesticides target enzymes that play a role in e.g. nucleic acid synthesis, respiration, cell division and other essential cellular processes. However, the molecular targets remain mostly unknown and foster resistances that emerge over time. As microbial plant pests still cause huge losses of crops worldwide, there is a higher need for new crop protectants that are also less toxic to humans and wildlife as the currently used ones are.

Technology

Scientists from the Max-Planck-Institutes for Multidisciplinary Sciences and Plant Breeding Research have identified compounds for treatment and protection of plant diseases caused by fungi, oomycetes and bacteria with high functionality and expected low toxicity.

Plant pathogens produce self-aggregating proteins similar to amyloid proteins, that contribute to extracellular structures such as cell walls, adhesion structures to biological surfaces and other pathogenicity related infection structures such as biofilmes. Our scientists have found and characterized compounds that inhibit protein aggregation of amyloid-like proteins, that had significant effects on the growth of plant pathogens.

These compounds are unlikely to induce plant resistance to pathogen but target the pathogen directly, are expected to show low human toxicity and high substance specificity with a low probability to develop resistances and are therefore highly suitable as novel pesticides for the protection of plant diseases.

We are now looking for a collaboration partner to further develop this exciting project.

Patent Information

An EP priority application was filed on 27.10.2021.

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