

NOVEL AGRICULTURAL, NEMATICIDAL AND ARTHROPOCIDE FUNGICIDES

Description:

This invention relates to a method for identifying compounds with potential pesticidal activity against chitin-containing organisms, said compounds being inhibitors of the enzyme chitin deacetylase (CDA). The method comprises virtual and experimental approaches to track databases of chemical compounds, and experimental analyzes of the identified compounds virtually to test their potentially pesticidal activities. More particularly, the invention relates to the experimental analysis of a set of 20 compounds that were tested against various phytopathogenic fungi, insect larvae and a model nematode. The fungicidal, arthropocidal and / or nematicidal activities of said compounds were confirmed. The specificity of the selected compounds as CDA inhibitors was also verified. The method of the present invention is useful for identifying CDA inhibitors. Furthermore, the present invention also relates to the use of said compounds as fungicides, arthropocides and / or nematicides both in agriculture and in other fields of application.

Keywords:

[Agricultura](#), [Fungicides](#), [Arthropocidal](#), [Nematicides](#)

Sectors:

[Biotechnology](#), [Agri-food](#), [Chemistry](#), [Fisheries](#), [Agriculture and Marine Resources](#)

Areas:

[Food](#), [Environmental and Forestry](#), [Biotechnology](#), [Agriculture](#)



Advantages:

It involves the identification of new chemical compounds with the potential to be used as fungicides in agriculture and also to be used for the control of harmful arthropods and pathogenic nematodes. Furthermore, they are compounds with a novel mechanism of action, that is, by inhibiting the enzyme chitin deacetylase, against which there should be no resistance, for example, in phytopathogenic fungi. In addition, compared to the latter, they do not have a direct toxic effect, but allow the activation of the immune defense of the plant. On the contrary, against insect larvae and nematodes they do have a biocidal effect.

Uses and Applications:

The present invention belongs fundamentally to the agricultural sector, and more specifically to the agrochemical industries, since it provides potential plant protection tools against harmful phytopathogenic fungi and nematodes and arthropods. Another sector of interest could be animal and human health (veterinary and pharmaceutical industries), since nematicidal and arthropocidal preparations could be prepared from the patent compounds.

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