Biodiversity of plant cell culture collections offers valuable source of natural insecticidal and fungicidal products

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Screening large cell culture collections containing plant samples obtained from diverse geographic regions, climates, and soil and growing conditions for biological activity can reveal a wealth of natural compounds with potential applications for crop improvement and protection. The capability to do reproducible screening and genomic analysis of the more than 2,000 plant cell lines maintained in culture at the Institute of Cell Biology and Genetic Engineering, in Kiev, Ukraine is describe in an article in Industrial Biotechnology.

In the article "Screening Plant Biodiversity I … New Natural Products," Prof. Nikolay V. Kuchuk and coauthors from the Institute of Cell Biology and Genetic Engineering and Zabolotny Institute of Microbiology and Virology, National Academy of Sciences of Ukraine, Kiev; Komarov Botanical Institute, Russian Academy of Sciences; Lawrence Berkeley National Laboratory, Berkeley, CA; and Hunter-Cevera & Associates, Ellicott City, MD, provide a detailed description of their methods for plant cell culture and the development of plant extracts for screening. The authors present the results of large-scale screening for insecticidal and fungicidal activity in 1,200 plant samples.

The article is part of the IB IN DEPTH special section entitled "Plants and Microorganisms: Moving Food and Agricultural Biotechnology Forward," led by Guest Editor Jennie Hunter-Cevera, PhD, Hunter-Cevera & Associates.


"Leveraging the genetic diversity of the plant world is an important activity for agricultural, environmental, and industrial biotechnology sectors and is key to addressing a spectrum of global
sustainability challenges," says Co-Editor-in-Chief Larry Walker, PhD, Professor, Biological & Environmental Engineering, Cornell University, Ithaca, NY.

More information: The article is available on the Industrial Biotechnology

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