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# Researchers will employ microscopic clay minerals to design more efficient and less toxic drugs

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University of Granada and the Spanish Consejo Superior de Investigaciones Científicas (CSIC) researchers will use nanoscopic clay for the controlled release of drugs in patients, with the aim of designing more efficient and less toxic drugs. This is a pilot research study that includes CSIC and University of Granada researchers and researchers from other institutions.

This project is based on a research on the adsorption and desorption of bioactive molecules on clay mineral surface. The goal is to design and develop new nanofunctional materials of natural origin that enable the controlled release of bioactive molecules, which is more environmentally-friendly than other synthetic systems.

This interdisciplinary research study has been funded by the University of Granada Campus of International Excellence BioTic. A total of six Andalusian research groups from different scientific fields –computational modeling of clay minerals, galenic development, natural resources, environmental evaluation and in vivo studies of bioactive substances– have participated in this study. In addition, an Andalusian company specialised in microencapsulated materials has also contributed to the study.

This project was coordinated by the University of Granada professor César Viseras Iborra and the CSIC researcher Ignacio Sainz Díaz. The study embraces, among other, atomistic computational studies, the preparation and characterization of materials at microscopic level, and their application to in vivo tests.

A number of institutions and companies have contributed to this study, as the Escuela Andaluza de Salud Pública, the Andalusian company LAIMAT and the Commissariat à l'Énergie Atomique in Grenoble, which are all aggregated to the CEI-BioTic.

Viseras Iborra and Sainz Díaz state that "the collaboration of scientific and technical experts will promote new collaborations in the future and will enable the development of new applications of clay minerals as the base of new nanofunctional materials".

Provided by University of Granada

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