Methods to Evaluate the Antidiabetic Activity of Medicinal Plants in Colombia

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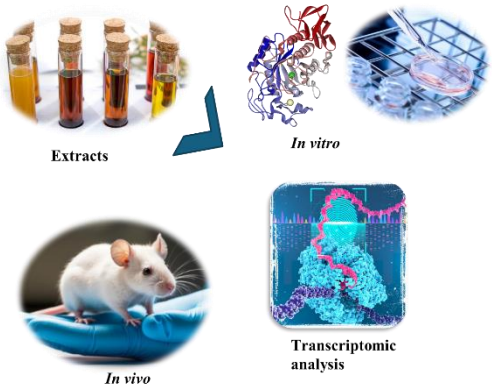
Abstract

The validation of the antidiabetic activity of medicinal plants represents a vital field of research looking for alternative treatments for diabetes mellitus. This chronic disease, characterized by the body's inability to regulate blood glucose, affects millions of people worldwide. The presentation explores methods used in Colombia to evaluate the antidiabetic potential of medicinal plants, with an emphasis on in vitro and in vivo assays.

Highlighted in vitro techniques include α-glucosidase and α-amylase inhibition assays, along with studies on cell viability, insulin resistance, and transcriptomic analysis. These methods enable the identification of bioactive compounds that could improve insulin sensitivity and lower blood glucose levels.

At the in vivo level, chemically or genetically induced animal models are described for simulating diabetes, facilitating the evaluation of the efficacy of plant extracts. Additionally, the importance of toxicity studies is emphasized to ensure the safety of these treatments.

The study points up the importance of scientifically validating the traditional use of medicinal plants in Colombia—a country with exceptional biodiversity—to contribute to the development of therapeutic alternatives based on scientific evidence.



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