Archives of Pharmacy and Pharmaceutical Sciences

Volume - 9, Issue - 1

Review Article **Published Date:- 2025-07-14**

A Concise Review - An Analytical Method Development and Validation of Vildagliptin

Vildagliptin is an orally active, potent, and selective Dipeptidyl Peptidase-4 (DPP-4) inhibitor, shown to be effective and well tolerated in patients with Type 2 Diabetes Mellitus (T2DM) as either monotherapy or in combination with other anti-diabetic agents. Vildagliptin is used to treat type 2 diabetes mellitus, typically in conjunction with diet and exercise. Vildagliptin is usually administered orally, with a common dosing regimen of 50 mg twice daily. It can be taken with or without food; however, it is important to take it consistently at the same time each day for optimal effectiveness.
This study focuses on the most recent advancements in analytical methods for determining the presence of Vildagliptin in different biological media, such as human plasma and urine, as well as in bulk and commercial dose forms. The following analytical techniques will be fully investigated in this paper: High-pressure Liquid Chromatography (HPLC), High Efficiency Thin Layer Chromatography (HPTLC), liquid chromatography coupled to a tandem mass spectrometry system (LC-MS), and electrophoresis. These techniques include several parameters, such as the following: matrix, dynamic phase composition, permanent phase RF value for sensing frequency, retention duration, DL, carrier gas, flow rate, capillary wavelength, separation voltage, temperature, and pressure.

Research Article **Published Date:- 2025-04-24**

Artificial Intelligence in the Pharmaceutical Galenic Field: A Useful Tool with Associated Risks

The integration of artificial intelligence (AI) technology into various fields, particularly healthcare, has demonstrated considerable potential in improving efficiency and accuracy. However, the potential risks associated with unprofessional or inappropriate use of AI cannot be overlooked. The current landscape of healthcare demonstrates a growing reliance on AI tools, which is expected to expand in the future. The existing literature highlights the effectiveness of various AI applications, including chatbots, in specific medical domains. This study aims to review relevant literature in the pharmaceutical and galenic fields while evaluating a prominent AI chatbot provider. Based on the findings, this article presents critical considerations for researchers and practitioners. A thorough assessment of the benefits and risks associated with AI technologies is essential as these tools become increasingly prevalent in pharmaceutical practices.

Research Article **Published Date:- 2025-03-28**

Green Synthesis of Citrus sinensis Peel (Orange Peel) Extract Silver Nanoparticle and its Various Pharmacological Activities

Citrus sinensis is a rich source of bioactive compounds and has attracted attention due to its medicinal benefits. Historically regarded as agricultural waste, orange peel is rich in flavonoids, polyphenols, tannins, and essential oils with antibacterial, anti-inflammatory, and antioxidant qualities. The phytochemicals in Citrus sinensis peel were used as natural reducing and stabilizing agents in the green synthesis method used in this work to create silver nanoparticles (AgNPs). This method is an environmentally friendly alternative to conventional nanoparticle production, eliminating the need for hazardous chemicals. Based on the study's results, green-synthesized silver nanoparticles derived from Citrus sinensis peel extract offer a sustainable and biocompatible substitute for biomedical applications. The pharmaceutical and healthcare industries may find therapeutic uses for them due to their exceptional antibacterial, antioxidant, and anticancer properties.

Research Article **Published Date:- 2025-01-24**

[In vitro, Anti-oxidant, and Anti-inflammatory Activity of Kalanchoe pinnata]

Kalanchoe pinnata is a widely recognized medicinal plant known for its antioxidant and anti-inflammatory properties. This study explores its in vitro antioxidant and anti-inflammatory activities, highlighting its potential for pharmaceutical and biomedical applications. The research innovatively assesses its bioactive components using DPPH radical scavenging, nitric oxide inhibition assays, and phenolic content analysis. Results demonstrated significant antioxidant activity with IC50 values comparable to ascorbic acid, along with notable anti-inflammatory effects via nitric oxide inhibition. These findings emphasize Kalanchoe pinnata's potential as a source for developing antioxidant and anti-inflammatory therapeutics. Further investigation into bioactive compound isolation and mechanistic pathways is recommended to clarify its pharmacological efficacy.