

Urostone: A Polyherbal Formulation for Urolithiasis Management

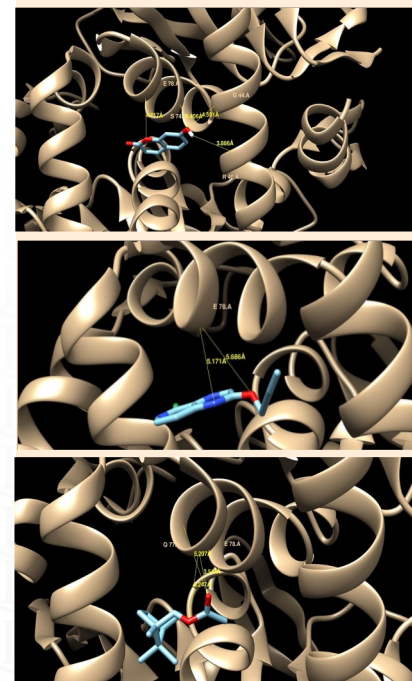
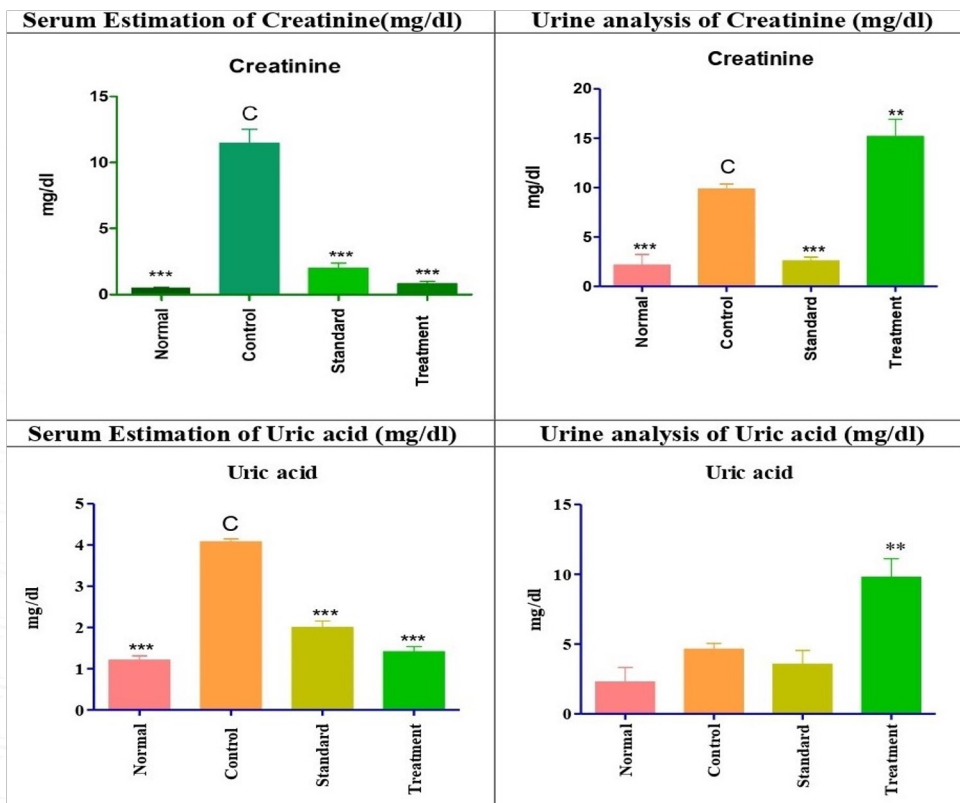
Introduction

Urostone is an innovative polyherbal treatment for urolithiasis, a condition characterised by kidney stone formation. With a global prevalence of 13%, urolithiasis is a growing urological disorder. Currently, surgical procedures are the primary treatment option. Urostone offers a non-surgical alternative, reducing recurrence rates and improving outcomes for patients with a high chance of recurrence.

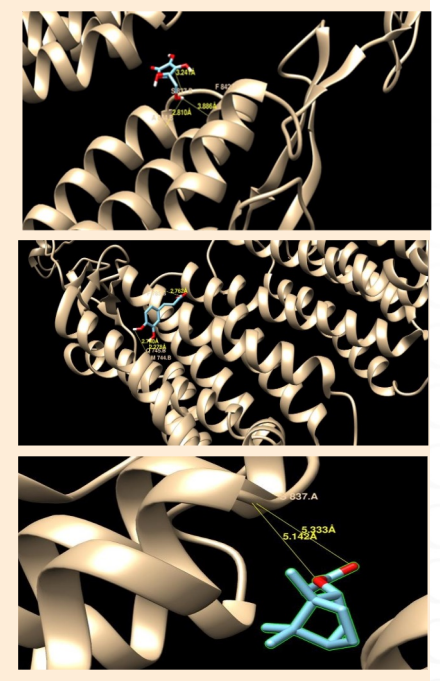
Urostone is a polyherbal formulation comprising three plant species: *Hydrangea* sp., *Berberis* sp., and *Hemidesmus* sp., which aims to overcome the challenges of managing urolithiasis. This study investigated Urostone's efficacy in stone disintegration and passage.

Active phytochemicals responsible for its antilithiatic effects were identified and tested for their binding affinity with the APRT gene and calcium-sensing receptor, which are known to be involved in causing urolithiasis. Out of 54 ligands, 10 showed promising activity against these factors. Cytotoxicity tests determined the optimal inhibitory concentration, and Urostone outperformed the control agent in animal models of urolithiasis. This study suggests that Urostone could be the first proven polyherbal drug for urolithiasis treatment.

Selected *in vivo* & *in silico* results



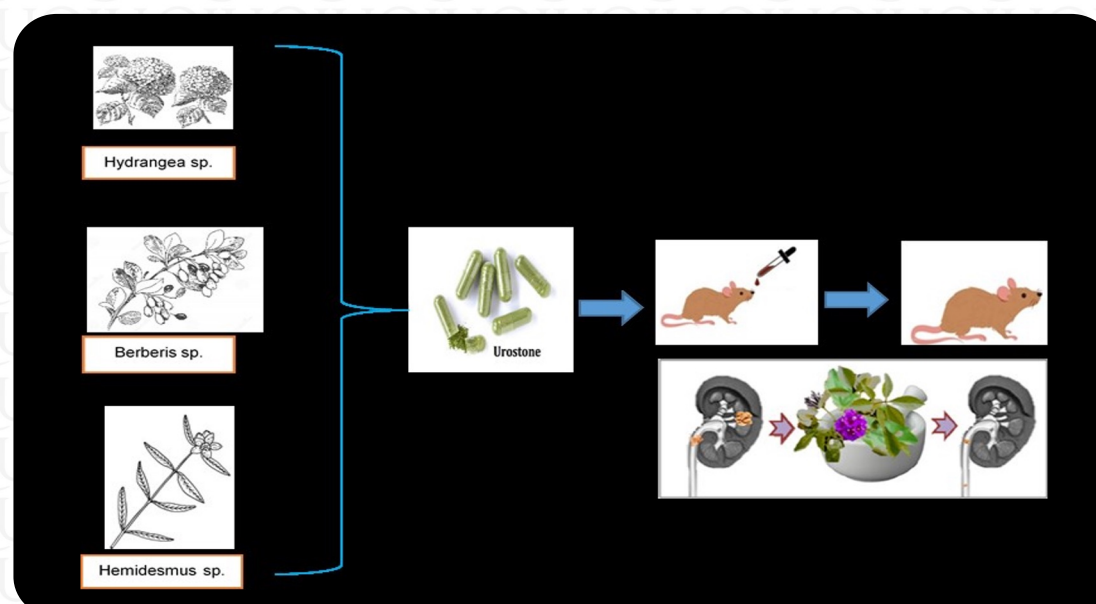
Interaction of selected ligands with APRT gene



Interaction of selected ligands with Calcium Sensing Receptor

Key Findings

- A multi-target drug which is effective against stones formed due to a genetic defect and a poor lifestyle.
- Easy to consume.
- Non-invasive treatment.
- Low toxicity and minimal side effects.



Novelty → It is a non-synthesized antilithiatic agent