GREEN SYNTHESIS OF *Solanum xanthocarpum* MEDIATED SELENIUM NANOPARTICLES AND ITS BIOMEDICAL APPLICATIONS

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AIM:

To evaluate the activity of antimicrobial, cytotoxicity, anti-inflammatory and antioxidant activity of *Solanum xanthocarpum* mediated selenium nanoparticles.

INTRODUCTION:

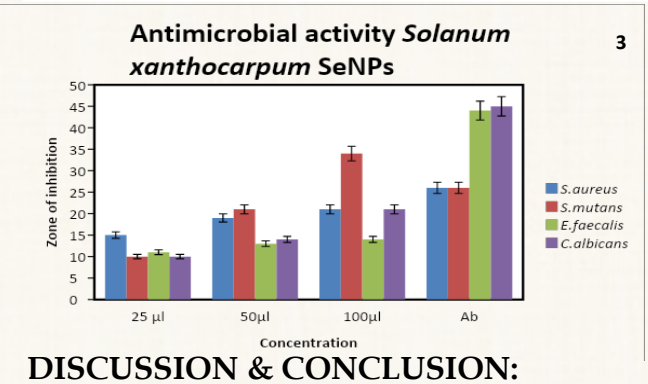
Nanoparticles serve to reduce toxicity, enhance bioactivity and improve targeting. Selenium nanopartciles (SeNPs) are explored because of it's unique characteristics and various known therapeutic benefits.

MATERIALS & METHODS:

1.Plant extract preparation
2.Selenium nanoparticles(SeNPs) preparation
3.Antimicrobial activity – Agar well diffusion method
4.Cytotoxicity activity – Brine shrimp lethality assay
5.Antiinflammatory activity – BSA assay
6.Antioxidant activity – DPPH assay

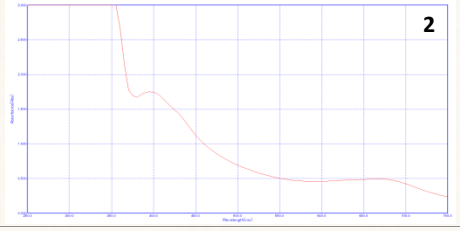
Cytotoxic activity 4

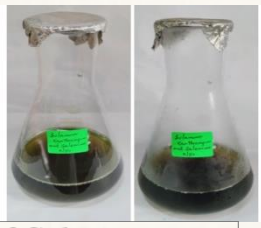
Con	Cont	5 µl	10µl	20µl	40µl	80µl
LD 50	10	7	6	3	4	2

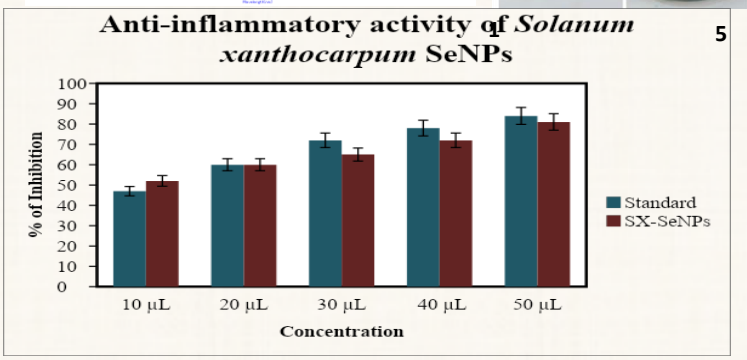


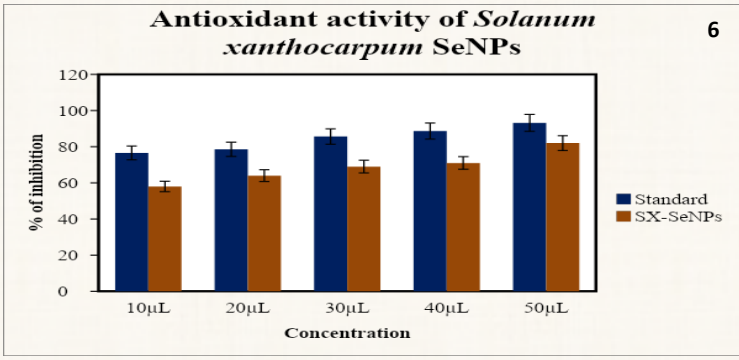
RESULTS:

- Visual Observation
- UV-vis spectrophotometry
- Antimicrobial activity
- Cytotoxic activity
- In vitro anti-inflammatory activity
- Antioxidant Activity









DISCUSSION & CONCLUSION:

This study proves the antimicrobial activity adopted by the selenium nanoparticles. It confirms lowered cytotoxic effect of *Solanum xanthocarpum* mediated selenium nanoparticles provides a potential application of these in future. The nanoparticle formulations were demonstrated to have biocompatibility, as well as strong potential for application in the fields of medicine and food.

REFERENCES:

Twinkle Francis, S Rajeshkumar*, Anitha Roy, T Lakshmi. Anti-inflammatory and Cytotoxic Effect of Arrow Root Mediated Selenium Nanoparticles, Pharmacogn J. 2020; 12(6): 1363-1367