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पेटेंट कार्यालय का एक प्रकाशन  
PUBLICATION OF THE PATENT OFFICE

(54) Title of the invention : BIOGENIC ANTIMICROBIAL CHITOSAN-BASED NANOPARTICLES AND PROCESS OF THEIR SYNTHESIS USING PLANT (OCIMUM SANCTUM) LEAF EXTRACT

<p>(51) International classification :A61K0036530000, A61K0009510000, A61P0031040000, A61K0033380000, A61K0036610000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : <b>1)Dr. Swati Sharma</b> Address of Applicant :Assistant Professor, Department of Biosciences, Integral University, Lucknow, Uttar Pradesh - 226026 -----</p> <p><b>2)Dr. Neelam Pathak</b> <b>3)Ms. Smita Rai</b> <b>4)Dr. Archana Vimal</b> <b>5)Ms. Ambreen Bano</b> <b>6)Dr. Anmol Gupta</b> Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : <b>1)Dr. Swati Sharma</b> Address of Applicant :Assistant Professor, Department of Biosciences, Integral University, Lucknow, Uttar Pradesh - 226026 -----</p> <p><b>2)Dr. Neelam Pathak</b> Address of Applicant :Professor and Head, Department of Biochemistry, Rammanohar Lohia Avadh University, Ayodhya, Uttar Pradesh - 224001 -----</p> <p><b>3)Ms. Smita Rai</b> Address of Applicant :Research Scholar, Department of Biosciences, Integral University, Lucknow, Uttar Pradesh - 226026 -----</p> <p><b>4)Dr. Archana Vimal</b> Address of Applicant :Assistant Professor, Department of Bioengineering, Integral University, Lucknow, Uttar Pradesh - 226026 -----</p> <p><b>5)Ms. Ambreen Bano</b> Address of Applicant :Research Scholar, Department of Biosciences, Integral University, Lucknow, Uttar Pradesh - 226026 -----</p> <p><b>6)Dr. Anmol Gupta</b> Address of Applicant :Research Scholar, Department of Biosciences, Integral University, Lucknow, Uttar Pradesh - 226026 -----</p>
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## (57) Abstract :

The present invention relates to Nanostructured compounds can exhibit enhanced pharmacological activity and hence, can be very promising strategy for control of multi drug resistance (MDR) pathogens. This work explored the use of Ocimum sanctum leaf extract to prepare Chitosan- tulusi nanoparticles and elucidate their antibacterial efficacy against pathogenic bacteria. Different concentrations of extract were used to form a range of nanoparticles and their formation was assessed by using UV spectroscopy. The results indicated that CS-TL NPs showed a dose-dependent response against tested bacteria. The antibacterial efficacy of CS-TL NPs was examined against MDR Escherichia coli (NCIM 2571) and pathogenic Bacillus subtilis (MTCC 441) The CSNPs which showed the best antibacterial activity were characterized using SEM, Zeta Potential, X-ray diffraction pattern and Fourier transform infrared spectroscopy. The studies shows that the CS-TL NPs with best antimicrobial activity, had an average hydrodynamic diameter of 1193 nm and a zeta potential of 27.3±1.6 mV.

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