

(54) Title of the invention : A METHOD OF SYNTHESIS OF NANOPARTICLE-HERBAL FORMULATION AND ITS EFFICACY AGAINST RUSSELL'S VIPER VENOM

<p>(51) International classification :A47J 272100, A61K 356500, B32B 380000, C12N 096400, C12Q 015600</p> <p>(86) International Application No :PCT// Filing Date :01/01/1900</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 : 1)Brainware University, Kolkata Address of Applicant :398, Ramkrishnapur Rd, Near Jagadighata Market, Barasat, Kolkata, West Bengal 700125 ----- -----</p> <p>Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)Dr. Sourav Ghosh Address of Applicant :Assistant Professor, Department of Allied Health Sciences, Brainware University, 398, Ramkrishnapur Rd, near Jagadighata Market, Barasat, Kolkata, West Bengal, 700125 - -----</p> <p>2)Dr. Sreya Chattopadhyay Address of Applicant :Assistant Professor, Department of Physiology, University of Calcutta, 92, APC Road, Kolkata, West Bengal, 700009 -----</p> <p>3)Dr. Antony Gomes Address of Applicant :(Ex) UGC Emeritus Professor, Department of Physiology, University of Calcutta, 92, APC Road, Kolkata, West Bengal, 700009 -----</p> <p>4)Mr. Ankur Das Address of Applicant :Doctorate Student, Department of Physiology, University of Calcutta, 92, APC Road, Kolkata, West Bengal, 700009 -----</p> <p>5)Mr. Ankan Mitra Address of Applicant :Doctorate Student, Department of Physiology, University of Calcutta, 92, APC Road, Kolkata, West Bengal, 700009 -----</p>
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(57) Abstract :

The present invention relates to a new and novel nanotechnology-based development of an herb-nanoparticle conjugate and its efficacy against snake venom in experimental animals. Aqueous extract of Curcuma aromatica (CA) rhizome is used to synthesize CA-gold nanoparticle (CA-AuNP) by reducing method. Physicochemical characterizations reveal its stability at 4°C for about 90 days. The hydrodynamic diameter of CA-AuNP is 120-135 nm with polydispersity index of 0.292. Transmission electron microscopy and field-emission scanning electron microscopy reveals its size 10-40 nm with nearly spherical shape. Its anti-Russell's Viper Venom activity is tested in Swiss albino male mice. Treatment with CA-AuNP protects against Russell's viper venom-induced mortality, defibrination, haemorrhage, oedema and phospholipase A2 activity. It also protects against Russell's viper venom-induced organ system damages by inhibiting cell apoptosis, tissue fibrosis, inflammation and oxidative damage. Accompanied Drawing [FIG. 1]

No. of Pages : 28 No. of Claims : 6