पेटेंट कार्यालय
शासकीय जर्नल

OFFICIAL JOURNAL
OF
THE PATENT OFFICE

निर्गमन सं. 15/2024	शुक्रवार	दिनांक: 12/04/2024
ISSUE NO. 15/2024	FRIDAY	DATE: 12/04/2024

पेटेंट कार्यालय का एक प्रकाशन
PUBLICATION OF THE PATENT OFFICE

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :14/03/2024

(21) Application No.202421018578 A
(43) Publication Date : 12/04/2024

(54) Title of the invention : "TRAMADOL LOADED MICRONEEDLES FOR CONTROLLED RELEASE"

(51) International classification	:A61M0037000000, A61K0009000000, A61K0031135000, A61P0029000000, A61P0025040000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Rajiv Gandhi Institute of Pharmacy, AKS University
Address of Applicant :Rajiv Gandhi Institute of Pharmacy, AKS University, Sherganj, Panna Road, Satna (MP)-485001 ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Dr. Surya Prakash Gupta
Address of Applicant :Rajiv Gandhi Institute of Pharmacy, AKS University, Sherganj, Panna Road, Satna (MP)-485001 ---------- ----------
2)Miss. Neelu Dubey
Address of Applicant :Rajiv Gandhi Institute of Pharmacy, AKS University, Sherganj, Panna Road, Satna (MP)-485001 ---------- ----------

(57) Abstract :
The present invention relates to prepare dissolvable microneedle formulations loaded with Tramadol and other pharmaceutical acceptable excipients. Further invention relates to assess the physical characteristics and in vitro anti-inflammatory activity of microneedle formulations loaded with Tramadol. Another invention relates to anti-inflammatory action of the microneedle patches is determined using in vitro albumin denaturation assay method. Furthermore invention relates to microneedles are produced using 15 and 20% PVA and 2.5% chitosan presented the highest mechanical strength and could retain the shape of the needle even on pressure applied by 1000g weight. In present investigation Tramadol released in a biphasic manner from the microneedles with an initial burst release within 3 hours release almost 50% of drug. The microneedle patches loaded with Tramadol exhibited the inhibition of albumin denaturation comparable to pure Tramadol. The microneedle patches loaded with Tramadol exhibited the inhibition of albumin denaturation comparable to pure Tramadol. The TMN5 had shown the inhibition capacity (77.38 ± 8.639%) whereas TMN6 exhibited inhibition capacity of (79.17 ± 7.912%). The inhibition protein denaturation by100 µg/mL solution of standard drug Tramadol was found to be 89.53 ± 6.531%.

No. of Pages : 17 No. of Claims : 7