

(54) Title of the invention : COMPOSITION FOR STIMULATING NEURAL REGENERATION AND PREVENTING NEURODEGENERATION IN PARKINSON BY INHIBITING PHOSPHODIESTERASE IV

<p>(51) International classification :A61P0025000000, A61P0029000000, A61K0009000000, A61P0025160000, A61K0036185000</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 : 1)Dr Dithu Thekkekkara Address of Applicant :Lecturer, Department of Pharmacology, JSS College of Pharmacy, Sri Shivarathreeshwara Nagar, JSS Academy of Higher Education & Research, Mysuru-570015, India Mysuru -----</p> <p>Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)Dr Dithu Thekkekkara Address of Applicant :Lecturer, Department of Pharmacology, JSS College of Pharmacy, Sri Shivarathreeshwara Nagar, JSS Academy of Higher Education & Research, Mysuru-570015, India Mysuru -----</p> <p>2)S K Meheronnisha Address of Applicant :M Pharm student, Department of Pharmacology, JSS College of Pharmacy, Sri Shivarathreeshwara Nagar, JSS Academy of Higher Education & Research, Mysuru-570015, India Mysuru -----</p> <p>3)Dr.Prabitha P Address of Applicant :Lecturer, Department of Pharmaceutical Chemistry, JSS College of Pharmacy, Sri Shivarathreeshwara Nagar, JSS Academy of Higher Education & Research, Mysuru-570015, India Mysuru -----</p>
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(57) Abstract :
The present invention provides a composition comprising an amount of a phosphodiesterase IV (PDE4) inhibitor effective to inhibit phosphodiesterase IV (PDE4) activity in neuron when administered orally to a mammal. The composition after administration shows greater number of normal neurons in substantia nigra. The composition, wherein the PDE4 inhibitor is Ro 20-1724 and administered at dose of 500µg/kg, i.p., for 21 days to male Sprague Dawley rat show improved motor behavioral performance; Ro 20-1724 also show its effect on the endogenous antioxidant enzymes such as restoring the SOD and CAT levels and reduced LPO levels in Parkinson Disease rat model indicating Ro 20-1724 attenuates the oxidative stress; MTT assay of Ro 20-1724 is protective in nature on rotenone induced SH-Sy5Y cells on dose dependent manner with increased cell viability. Best protection against the rotenone treatment was observed at 50µM; latency to fall (LTF) in disease control group show significant decrease in LTF on comparison with normal group on both 7th and 28th day; on administration of Ro 20-1724 showed significant increase in LTF when compared to disease control but the combination group treated with both Ro 20-1724 and levodopa-carbidopa show significant increase than single dose of Ro 20-1724. The composition of Ro 20-1724 is a potential agent for reverse inhibition of neural regeneration in the nervous system.

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