

(54) Title of the invention : COMPOSITION AND METHOD FOR PREVENTING AND TREATING CHEMOTHERAPY INDUCED PERIPHERAL NEUROPATHY IN BRAIN CELLS

(51) International classification :A01J0005017000, H04L0009080000, G01N0021640000, C07K0016220000, G01N0035000000

(86) International Application No :NA
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA
Filing Date :NA

(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :

The present invention provides a composition comprising an amount of an ellagic acid effective enough to preventing and treating neurons in chemotherapy induced peripheral neuropathy. The ellagic acid is administered orally at a dose of 100mg/kg and 200mg/kg p.o to male Swiss Albino mice in treatment. After treatment animals are evaluated on morphological parameters for Body weight, Behavioral parameter for acetone drop test, hot plate method; biochemical parameters for GSH, Total protein; ELISA as TNF-alpha, IL-6 and histopathology parameter for Sciatic nerve and spinal cord. After treatment with Ellagic acid upon the 24-hours treatment, %cell viability of SH-Sy5Y cell lines ranges from 79.78% to 97.14%; %cell viability of Paclitaxel-induced SH-Sy5Y cell lines ranges from 46.92% to 68.95% and IC50 conc 25µM/ml. The expression of TNF-alpha and IL-7. cytokines are significantly decreased in the treatment group when compared to the control group. The composition, wherein Ellagic acid treatment elevate the reduced GSH levels and decreased the elevated total protein levels. The cells after treatment with Ellagic acid significantly increased the number of normal neurons and significantly decreased the number of degenerated neurons. The effective dose of the ellagic acid is a promising concentration for treating brain cancer and produces a neuroprotective effect through inflammatory regulation, which protects the peripheral neurons.

No. of Pages : 30 No. of Claims : 10