Short Communication

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Epigallocatechin-3-gallate loaded PEGylated-PLG Nanoparticles: A new anti-seizure strategy for temporal lobe

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Abstract

Temporal lobe epilepsy is the most common type of pharmacoresistant epilepsy in adults. Epigallocatechin-3-gallate has aroused much interest because of its multiple therapeutic effects, but its instability compromises the potential effectiveness. PEGylated-PLGA nanoparticles of Epigallocatechin-3-gallate were designed to protect the drug and to increase the brain delivery. Nanoparticles were prepared by the double emulsion method and cytotoxicity, behavioural, Fluoro-Jade C, Iba1 and GFAP immunohistochemistry studies were carried out to determine their effectiveness. Nanoparticles showed an average size of 169 nm, monodisperse population, negative surface charge, encapsulation efficiency of 95% and sustained release profile. Cytotoxicity assays exhibited that these Nano carriers were non-toxic. Neurotoxicity and immunohistochemistry studies confirmed a decrease in neuronal death and neuroinflammation. In conclusion, Epigallocatechin-3-gallate PEGylated-PLGA nanoparticles could be a suitable strategy for the treatment of temporal lobe epilepsy.

Activity possibilities are the consequence of layer depolarization which is achieved by an adjustment of the appropriation of particles across the film. Contrasts in particle fixations on one or the other side of a layer bring about an electrical charge differential across the film which is alluded to as an electrochemical potential.

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Biography

Amanda Cano is a Specialist in Neurology; he has worked for 5 years in the University of Barcelona, Spain. He has worked with Electron Microscopy on Schizophrenia for 32 years.

