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Ming-Jun Tsai et.al., J Pharm Drug Deliv Res 2018, Volume 7
DOI: 10.4172/2325-9604-C2-029

Rosiglitazone loaded in nanoliposome carriers for enhanced bioavailability and brain targeting for ischemic stroke

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Rosiglitazone (RSG), marketed as an anti-diabetic drug, is a potent peroxisome-proliferator activated receptor-γ (PPAR-γ) agonist working on insulin-sensitizing and increase of glucose influx into adipose tissue and muscle. It has shown neuroprotective effect against ischemic stroke in recent clinical studies, whereas, severe side effect including cardiac toxicity restricted clinical use. The purpose of the study is to develop a better liposome formulation of RSG to enhanced CNS penetration and limited systemic side effect. Liposome is produced by thin layer method. With different ingredient of liposome, we try a better formula to change tissue distribution and penetration through blood brain barrier for neuroprotection effect against ischemic injury from stroke. The characterization of Rosiglitazone liposome is produced by dynamic light scattering including particle size and zeta potential. Pharmacokinetic and bio-distribution is carried out on Wistar rats. We use high performance liquid chromatography with fluorescent detector to check blood concentration and drug encapsulation efficiency. We also tested the effect of Rosiglitazone embedded in liposome for enhancing brain targeting and reduced systemic side effect in the rat animal models of ischemic stroke.

Biography

Ming-Jun Tsai has graduated from School of Medicine, Chung Shan Medical University and obtained his PhD degree from Cheng-Kung University. He is presently the Chief of Department of Neurology, China Medical University-An-Nan Hospital and the Associate Professor of China Medical University, Taichung, Taiwan.

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