

Project Title: Embelin-Poloxamer conjugate as a synergistic combination for neurodegenerative diseases

Supervisory team: Dr. Mohd. Farooq Shaikh & Dr. B Saatheeyavaane B Pillai

Project Description:

Numerous similarities exist between glaucoma and neurodegenerative diseases such as Alzheimer's disease. Similarities include the selective loss of neuron populations, trans-synaptic degeneration in which disease spreads from injured neurons to connected neurons, and common mechanisms of cell injury and death. There is a lack of treatment and preventive medications are available to control these conditions. Hence there is a pressing need to develop a novel therapy to overcome the problem. It is hypothesized that a combination of Embelin, a Malaysian plant-derived benzoquinone and Poloxamer 188, a copolymer, will exhibit a synergistic effect in improving degenerative diseases mainly Alzheimer's disease and glaucoma. The objectives of the project are to develop Embelin-Poloxamer conjugate for improved efficacy and to evaluate the anti-neurodegenerative potential of Embelin-Poloxamer conjugate. The project also involves understanding the molecular mechanism of the conjugate action.

Required skills (preferably not necessary):

1. Biomedical Sciences/Pharmacology/Neuroscience or other equivalent Hons or Master's degree
2. Experience on experimental pharmacology, animal handling techniques
3. Strong writing and analytical skills