

5th International Conference and Exhibition onPHARMACOGNOSY, PHYTOCHEMISTRY
& NATURAL PRODUCTS

July 24-25, 2017 Melbourne, Australia

The search for anti-neurodegenerative drug lead from an Indian traditional herbal medicine that is regarded as a brain tonic**Kavitha Sreehari, John D Orbell and Andrew Smallridge**
Victoria University, Australia

Most drugs for Alzheimer's Disease (AD) are symptomatic and have little or no effect on disease progression. One area of research into such diseases suggests that certain metal ions such as Cu^{2+} , Zn^{2+} and Fe^{2+} are enriched in $\alpha\beta$ deposits and such aggregates play a vital role in neuronal damage. It has been surmised that certain chelators that pass the Blood Brain Barrier (BBB) may sequester such metals from $\alpha\beta$ accumulation and arrest neuronal damage. Thus traditional medicines that have been employed as 'brain tonic' contain chelators which could pass through (BBB) and exert beneficial effects. One such traditional medicine that has been regarded and utilized as a 'brain tonic' for centuries is the Indian traditional herbal medicine *Bacopa Monnineri* (BM). Some of the molecular components of this plant material were identified as being capable of passing through (BBB). These were assessed for their ability to complex copper, zinc or iron using modelling. One de-glycosylated moiety in particular was found to be a potential candidate that was able to pass through (BBB) and complex Cu^{2+} , $\text{Zn}^{2+}/\text{Fe}^{2+}$. This molecule is a steroid that also resembles a molecule that has recently been found to dissolve protein aggregates that are associated with cataracts and this could represent an alternative mechanism for anti-plaque activity. This idea is being pursued via similarity studies. These computational studies have been complemented by experimental studies whereby evidence of Cu^{2+} , $\text{Zn}^{2+}/\text{Fe}^{2+}$ chelation has been sought from chemical analyses of (BM) extracts.

Biography

Kavitha Sreehari is currently pursuing her PhD at College of Engineering and Science, Victoria University, Australia. Her research includes the search for anti-neurodegenerative drug leads that could pass through the blood brain barrier effectively and thus results therapeutic benefits to the patients. She has published two papers in peer reviewed journals.

Kavitha.sreehari@gmail.com

Notes: