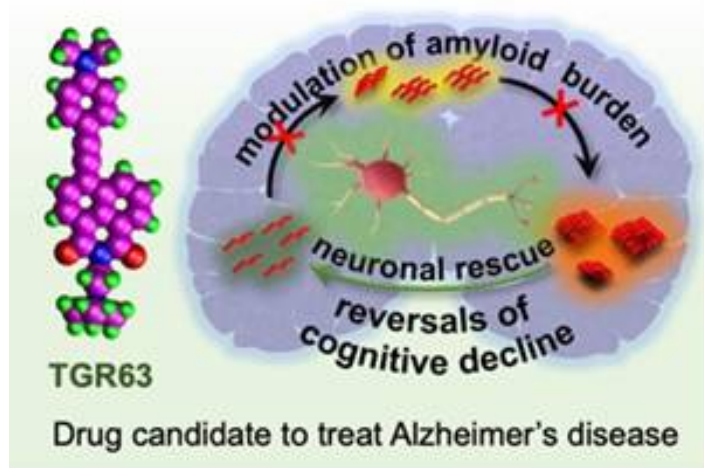


JNCASR develops potential drug candidate for Alzheimer's disease

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A team of scientists have designed and synthesised a set of novel small molecules and identified a lead candidate which they found could reduce the toxicity of Amyloid Beta (A β) toxicity



Scientists have developed a small molecule that disrupts the mechanism through which neurons become dysfunctional in Alzheimer's disease (AD). The molecule could be a potential drug candidate to halt or cure the leading cause of dementia (70-80 per cent) worldwide.

A team of scientists led by Professor T Govindaraju from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), an autonomous institute of the Department of Science & Technology, Government of India, designed and synthesised a set of novel small molecules and identified a lead candidate which they found could reduce the toxicity of Amyloid Beta (A β) toxicity.

The detailed studies established the molecule called TGR63 as the lead candidate to rescue neuronal cells from amyloid toxicity. Remarkably, the molecule was also found to reduced amyloid burden in the cortex and hippocampus, or a complex part embedded deep into the temporal lobe, thereby reversing cognitive decline. This research has been published recently in the journal Advanced Therapeutics.

Mice brain affected with Alzheimer's disease when treated with TGR63 showed a significant reduction of amyloid deposits, validating its therapeutic efficacy. The mice also showed reduction of learning deficiency, memory impairment, and cognitive decline as revealed by distinct behavioural tests. These key attributes have validated the potential of TGR63 as a promising drug candidate for the treatment of AD.