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**Assessment of pure compound delineating ageing: Targeting receptor of advanced glycation end products**

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**Background:** Advanced glycation end products are complex heterogenous compound that is major contributing factor in the progression of age-related complications such as Parkinson and Alzheimer's disease. However, to facilitate potent antiglycation activity, we have worked on in vivo ex vivo and in vitro glycation model while using potent inhibitory pure compound obtained from natural sources.

**Aims:** To limit rate to glycation induced devastating pathologies such as cellular damage, ageing through non-pharmacological interventions. Evaluating therapeutic potential of pure compound against glycation induced animal model by monitoring their blood haemoglobin level and cognitive activities by measuring CML level in brain with controlled and glycated animal model ensuring test compound potential activity at appropriate regimen.

**Method:** The in vitro assay carried out following bovine serum albumin with fructose. AGE's Fluorescence, Fructosamine adduct assay, Circular Dichroism (assessing protein aggregation), NBT and Thio-flavin t assays performed to assess structural modification of protein due to glycation with or without test compound. In vivo model included oral 10% fructose for 16 weeks, glycation effect measure through HbA1C level and some behavioural studies included Morris water maze for ensuring decline in cognition of glycated animal and with test compounds. Molecular level included induction of RAGE on macrophages using raw cells evaluating inhibitory effects of potential test compounds.

**Result:** In similarity with reaction mixture the fluorescence intensity of reaction mixture with inhibitor significantly reduced. The activity of pure compound has inhibited AGE's formation with dose dependent effects and IC50 was calculated. Data of in vitro assays is collected

**Discussion:** Using following reporting system for analysis of inhibition potential natural compound, we aim to make a novel entity targeting glycation induced diseases that may help to improve life span and quality of life in future.

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