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Modulation of calcium oxalate crystals morphology by aqueous extract of *Tribulus terrestris*

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Tribulus terrestris has an ancient tradition in folk and in Ayurveda as a diuretic, antiseptic and anti-inflammatory agent, it is also a common constituent of various marketed antiurolithiatic herbal formulations like Uriflow, Uritone, Cystone, Neeri and Culdisol, etc. To investigate the effect of aqueous extract (AE) of *Tribulus terrestris* of different extraction parameters i.e., AE1 (temp. 23.50°C, time 19.50 hours and S:L 12:00), AE2 (temp. 4.16°C, time 19.50 hours and S:L 12:00), AE3 (temp. 35°C, time 36 hours and S:L 12:00) and AE4 (temp. 35°C, time 3 hours and S:L 20:00) on calcium oxalate crystals (COM) formation, crystals size and morphology of crystals, polarization microscopic imaging technique was used. To investigate the effect of test sample, 50 µl of CaCl₂ (4.25 mM), 50 µl of Na₂C₂O₄ (0.75 mM) and 50 µl of test samples were mixed and incubated at 37°C for 45 minutes. Crystal morphology was examined in five randomly selected fields at 40× magnification from different fields under an upright microscope (Olympus Corporation, Japan). Microscopic analysis showed that the aqueous extract AE1 and AE2 reduces the number of crystals, shine of crystals and also showed distortion in morphology of COM crystals as compared to AE3 and AE4. In conclusion, AE1 and AE2 found more effective then AE3 and AE4.

Biography

Jyoti Kaushik has completed her MSc Biotechnology from Lovely Professional University, Punjab. She is currently pursuing her PhD in Biotechnology and working as SRF in DBT sponsored project under the guidance of Dr. Chanderdeep Tandon from Amity Institute of Biotechnology, Amity University, India.

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PPARG: A possible target for type-2 diabetes induced Dementia

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Type-2 Diabetes Mellitus (T2DM) is the most complex and rising disease in the recent years. It is believed that T2DM is associated with various diseases in which dementia is the major one. Studies have reported that diabetes increase the risk of dementia by 1.5 to 2 fold. In the etiology of diabetes induced dementia/cognitive impairment, inflammatory markers, disturbed immune response and increased apoptosis plays a critical role in the production of oxidative stress in the peripheral tissues. To manage these challenges, it is required to incorporate flavonoids, terpenoids & alkaloids in our diet. This will suppress neuroinflammation and promote memory learning and cognitive functions. In the current study, we have developed a map that represents the progression of T2DM to dementia by using differentially expressed proteins. It was observed that PPARG plays a crucial role in transferring T2DM to dementia. We have also docked PPARG receptor with flavonoids along with marketed drug of T2DM for further drug designing targeting T2DM induced dementia.

Biography

Khyati Mittal has completed her MSc in Industrial Chemistry and she is currently pursuing PhD in Biotechnology in Amity University, Uttar Pradesh. Her area of specialization is Pharmaceutical Biotechnology. She has one publication in *International Journal of Pharmaceutical Science Research and Review*.

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