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TAMARIND INDICA: THERAPEUTIC PROPERTIES OF CRUDE EXTRACT OF THE FRUITS



▶ MORE INFORMATION

MEGA-TREND

- **Healthcare**

TECHNOLOGY READINESS LEVEL (TRL)

- **TRL 3 (Proof of Concept)**

PATENT/ GRANTED NUMBER

- **MY-158583-A**
- **PI 2010002538**

▶ TECHNOLOGY OVERVIEW

Results obtained from microarray analysis and validated by semi-quantitative RT-PCR and real time RT-PCR in human hepatoma cells line, hepg2, revealed that the crude extract from tamarindus indica (t. Indica) fruit pulp up-regulated genes related to antioxidant activity including cyp3a1, gsta1, gsta2, gsto2 and sult1a2. The extracts were also able to up regulate the transcription of apoa4 and apoa5 genes while down regulate that of MTTF. Apoa-v is thought to reduce TG levels by activating lipoprotein lipase (LPL), the enzyme that is responsible in catabolizing TG-rich lipoproteins, chylomicrons and VLDL hence improving the clearance of these lipoproteins from blood. Apoa-iv on the other hand, had been shown to be a potent endogenous antioxidant that inhibit lipid oxidation. MTTP is required for the assembly and secretion of TG-rich lipoproteins from both enterocytes and hepatocytes. MTTP inhibitor has the potential to lower plasma lipid mainly plasma TG.

The inhibition of MTP gene expression especially in the intestine may subsequently lead to reduction in the levels of blood cholesterol. In addition, the transcription of the pituitary tumour-transforming gene (PTTG1) was down-regulated. An increase in the levels of pttg1 is seen in stage iii of various cancers including thyroid, pituitary, lung, colon, esophagus, ovary and breast cancers. The crude extract of the fruits of t. Indica has potential application for the treatment of cancer through the inhibition of the transcription of PTTG1 gene.

CONTACT US!

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