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## ANTI-DIABETIC ACTIVITY OF SIMAROUBA GLAUCA: IN-VITRO APPROACH

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### Abstract

Background: *Simarouba glauca* is a medium sized ever green tree with tap root system and cylindrical stem commonly known as paradise tree belonging to *simaroubaceae* family; it has a long history in herbal medicine in many countries. The present study design was to evaluate the in-vitro anti-diabetic activity of *simarouba glauca*. To examine the anti diabetic activity, samples were studied for their effect on inhibition of alpha amylase and glucose transport across dialysis membrane. Acarbose was used as standard drug. From the results of the study, it was inferred that, *simarouba glauca* possesses anti diabetic activity. Our current results indicate that the various bioactive constituents detected in the *simarouba* may be responsible for its in-vitro anti-diabetic effect. Thus, we can safely say that *simarouba glauca* may be potential candidate for development of future anti-diabetic compounds. However, still further studies and standardisation of the plant research may be required to develop them as medicine. Conclusion: In the present study, results indicate that the methanolic extract of *simarouba glauca* possesses anti-diabetic properties. These activities may be due to occurrence of polyphenolic compounds such as alkaloids, terpenoids, flavonoids, tannins, and phenols. The present findings suggest that, the methanolic extract of *S.glauca* showed a significant inhibitory effect on alpha amylase and glucose diffusion in vitro thus validating the anti-diabetic activity.

**Key Words:** In-vitro anti-diabetic, *simarouba glauca*

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## INSIGHTS INTO MECHANISM FOR LIPOMA: GENETIC INTERVENTIONS

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### Abstract

Lipomas, benign soft tissue fatty tumours that are very common. They are most commonly found in the age group of 40 to 60 years and mainly in males. The exact cause of lipoma has not yet been diagnosed, but there is a chance that it can be due to genetic causes such as Familial Multiple Lipomatosis. Lipomas can sometimes be malignant and become Liposarcomas. Nevertheless, expert say only 50% chance of it. As of now, we can just say that liposarcomas are formed when there is an error in the genetic code of the particular fat cells, which then spreads body wide. The study on lipoma was helpful to examine the clinical significance of the expression of fusion genes in lipomas. In the study reviewed there were no intergroup differences in age, gender, body mass index, tumor size or location. The expression of certain genes are analyzed on the lipomas with the gene fusion transcripts, which are HMGA2/LPP, HMGA2/RDCI and HMGA2/NFIB. In this of about 98 % of cases were analyzed for the possible expression of HMGA2/LPP and LPP-HMGA2 fusion genes using a reverse transcription polymerase chain reaction. Even though the number of identified gene fusions involving HMGA2/LPP had increased, the prevalence of other genes have not documented. Overall, it showed non-enhanced adipocyte apoptosis and enhanced adipogenesis in lipoma tissue. It was also hinged that the lipoma tissue was deprived of several obesity-related incident such as Ischaemia, Macrophage infiltration etc. The increased angiogenesis or adipogenesis may be swayed by the micro environmental factors of adipose tumor.

**Key words:** Lipoma, Liposarcomas, Lipomatosis, Adipogenesis, Adipose tumor, Ischemia, Macrophage Infiltration

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