International Journal of Science, Strategic Management and Technology
Volume **02** Issue **04** April-**2026** | ISSN: **3108-1762 (Online)** | Impact Factor: 3.8
An International, Peer-Reviewed, Open Access Scholarly Journal Indexed in recognized academic databases

Experimental Investigation of the Antidiabetic and Antioxidant Effects of *Tecoma Stans* Root Extract in Streptozotocin-Induced Diabetic Rats

Mr. Anupam, Ms. Harsha Matoli
Gurukul Institute of Pharmaceutical Science & Research, Gwalior (M.P.)

https://doi.org/10.55041/ijsmt.v2i4.001

Cite this Article: Anupam, & Matoli, H. (2026). Experimental Investigation of the Antidiabetic and Antioxidant Effects of Tecoma Stans Root Extract in Streptozotocin-Induced Diabetic Rats. International Journal of Science, Strategic Management and Technology, *02*(04). https://doi.org/10.55041/ijsmt.v2i4.001

License: This article is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting use, distribution, and reproduction in any medium, provided the original author(s) and source are properly credited.

Abstract

This study investigates the anti-diabetic potential of ethanolic extract of Tecoma stans roots using experimental animal models. Diabetes mellitus is a major global health concern characterized by chronic hyperglycemia and oxidative stress. The present work evaluates biochemical, antioxidant, and histopathological parameters to validate traditional claims. The extract demonstrated significant hypoglycemic activity, reduction in oxidative stress markers, and improvement in antioxidant enzyme levels. These findings support its potential as a natural therapeutic agent.This study investigates the anti-diabetic potential of ethanolic extract of Tecoma stans roots using experimental animal models. Diabetes mellitus is a major global health concern characterized by chronic hyperglycemia and oxidative stress. The present work evaluates biochemical, antioxidant, and histopathological parameters to validate traditional claims. The extract demonstrated significant hypoglycemic activity, reduction in oxidative stress markers, and improvement in antioxidant enzyme levels. These findings support its potential as a natural therapeutic agent.This study investigates the anti-diabetic potential of ethanolic extract of Tecoma stans roots using experimental animal models. Diabetes mellitus is a major global health concern characterized by chronic hyperglycemia and oxidative stress. The present work evaluates biochemical, antioxidant, and histopathological parameters to validate traditional claims. The extract demonstrated significant hypoglycemic activity, reduction in oxidative stress markers, and improvement in antioxidant enzyme levels. These findings support its potential as a natural therapeutic agent.This study investigates the anti-diabetic potential of ethanolic extract of Tecoma stans roots using experimental animal models. Diabetes mellitus is a major global health concern characterized by chronic hyperglycemia and oxidative stress. The present work evaluates biochemical, antioxidant, and histopathological parameters to validate traditional claims. The extract demonstrated significant hypoglycemic activity, reduction in oxidative stress markers, and improvement in antioxidant enzyme levels. These findings support its potential as a natural therapeutic agent.This study investigates the anti-diabetic potential of ethanolic extract of Tecoma stans roots using experimental animal models. Diabetes mellitus is a major global health concern characterized by chronic hyperglycemia and oxidative stress. The present work evaluates biochemical, antioxidant, and histopathological parameters to validate traditional claims. The extract demonstrated significant hypoglycemic activity, reduction in oxidative stress markers, and improvement in antioxidant enzyme levels. These findings support its potential as a natural therapeutic agent.

Keywords

Diabetes mellitus, Ethanolic extract, Oxidative stress, Antioxidant

© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

Introduction

Diabetes mellitus is a chronic metabolic disorder affecting millions worldwide. It is characterized by persistent hyperglycemia due to insulin deficiency or resistance. The increasing prevalence of diabetes necessitates alternative therapeutic approaches. Medicinal plants have gained importance due to their safety and efficacy. Tecoma stans is traditionally used in managing diabetes, but scientific validation is required.Diabetes mellitus is a chronic metabolic disorder affecting millions worldwide. It is characterized by persistent hyperglycemia due to insulin deficiency or resistance. The increasing prevalence of diabetes necessitates alternative therapeutic approaches. Medicinal plants have gained importance due to their safety and efficacy. Tecoma stans is traditionally used in managing diabetes, but scientific validation is required.Diabetes mellitus is a chronic metabolic disorder affecting millions worldwide. It is characterized by persistent hyperglycemia due to insulin deficiency or resistance. The increasing prevalence of diabetes necessitates alternative therapeutic approaches. Medicinal plants have gained importance due to their safety and efficacy. Tecoma stans is traditionally used in managing diabetes, but scientific validation is required.Diabetes mellitus is a chronic metabolic disorder affecting millions worldwide. It is characterized by persistent hyperglycemia due to insulin deficiency or resistance. The increasing prevalence of diabetes necessitates alternative therapeutic approaches. Medicinal plants have gained importance due to their safety and efficacy. Tecoma stans is traditionally used in managing diabetes, but scientific validation is required.Diabetes mellitus is a chronic metabolic disorder affecting millions worldwide. It is characterized by persistent hyperglycemia due to insulin deficiency or resistance. The increasing prevalence of diabetes necessitates alternative therapeutic approaches. Medicinal plants have gained importance due to their safety and efficacy. Tecoma stans is traditionally used in managing diabetes, but scientific validation is required.

Materials and Methods

Plant material was collected and authenticated. Ethanolic extract was prepared using Soxhlet extraction. Experimental animals (Wistar rats) were divided into control, diabetic control, standard, and treatment groups. Diabetes was induced using streptozotocin. Parameters such as blood glucose, lipid profile, MDA, and CAT were evaluated. Statistical analysis was performed using ANOVA followed by post hoc test.Plant material was collected and authenticated. Ethanolic extract was prepared using Soxhlet extraction. Experimental animals (Wistar rats) were divided into control, diabetic control, standard, and treatment groups. Diabetes was induced using streptozotocin. Parameters such as blood glucose, lipid profile, MDA, and CAT were evaluated. Statistical analysis was performed using ANOVA followed by post hoc test.Plant material was collected and authenticated. Ethanolic extract was prepared using Soxhlet extraction. Experimental animals (Wistar rats) were divided into control, diabetic control, standard, and treatment groups. Diabetes was induced using streptozotocin. Parameters such as blood glucose, lipid profile, MDA, and CAT were evaluated. Statistical analysis was performed using ANOVA followed by post hoc test.Plant material was collected and authenticated. Ethanolic extract was prepared using Soxhlet extraction. Experimental animals (Wistar rats) were divided into control, diabetic control, standard, and treatment groups. Diabetes was induced using streptozotocin. Parameters such as blood glucose, lipid profile, MDA, and CAT were evaluated. Statistical analysis was performed using ANOVA followed by post hoc test.Plant material was collected and authenticated. Ethanolic extract was prepared using Soxhlet extraction. Experimental animals (Wistar rats) were divided into control, diabetic control, standard, and treatment groups. Diabetes was induced using streptozotocin. Parameters such as blood glucose, lipid profile, MDA, and CAT were evaluated. Statistical analysis was performed using ANOVA followed by post hoc test.

© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

Results

Treatment with ethanolic extract significantly reduced blood glucose levels compared to diabetic control. Antioxidant enzyme levels increased, while lipid peroxidation decreased. Histopathological studies showed improvement in pancreatic architecture.Treatment with ethanolic extract significantly reduced blood glucose levels compared to diabetic control. Antioxidant enzyme levels increased, while lipid peroxidation decreased. Histopathological studies showed improvement in pancreatic architecture.Treatment with ethanolic extract significantly reduced blood glucose levels compared to diabetic control. Antioxidant enzyme levels increased, while lipid peroxidation decreased. Histopathological studies showed improvement in pancreatic architecture.Treatment with ethanolic extract significantly reduced blood glucose levels compared to diabetic control. Antioxidant enzyme levels increased, while lipid peroxidation decreased. Histopathological studies showed improvement in pancreatic architecture.Treatment with ethanolic extract significantly reduced blood glucose levels compared to diabetic control. Antioxidant enzyme levels increased, while lipid peroxidation decreased. Histopathological studies showed improvement in pancreatic architecture.

Discussion

The anti-diabetic effect may be due to phytoconstituents such as flavonoids and alkaloids. These compounds exhibit antioxidant and insulin-sensitizing effects.The anti-diabetic effect may be due to phytoconstituents such as flavonoids and alkaloids. These compounds exhibit antioxidant and insulin-sensitizing effects.The anti-diabetic effect may be due to phytoconstituents such as flavonoids and alkaloids. These compounds exhibit antioxidant and insulin-sensitizing effects.The anti-diabetic effect may be due to phytoconstituents such as flavonoids and alkaloids. These compounds exhibit antioxidant and insulin-sensitizing effects.The anti-diabetic effect may be due to phytoconstituents such as flavonoids and alkaloids. These compounds exhibit antioxidant and insulin-sensitizing effects.

Table 1 : Preliminary Phytochemical screening of Tacoma Stan

PHARMACOLOGICALSTUDIES

Effect of Ethanolic Extract on Glucose-Loaded Rats (OGTT Model)

In the Oral Glucose Tolerance Test (OGTT), both the vehicle-treated group and the group treated with glibenclamide (GL, 10 mg/kg body weight) exhibited a significant rise in serum glucose levels (SGL) one hour after glucose administration.

S.No	Phytoconstituents	Ethanol
1	Alkaloids	+
2	Carbohydrates & Glycosides	+
3	Phytosterols	_
4	Fixed oils	-
5	Saponins	+
6	Tannins and Phenols	+
7	Proteins and Amino acids	+
8	Gums and Mucilage's	-
9	Flavonoids	+
10	Tannin's	+

(+) – Presence, (-) – Absence

Groups II and III, which received 200 mg/kg and 400 mg/kg of the ethanolic extract respectively, also showed an initial increase in SGL. However, both doses of the extract demonstrated significant hypoglycemic activity in normal rats. The

© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

200 mg/kg dose led to a notable reduction in blood glucose levels by the second hour, while the 400 mg/kg dose produced an even more pronounced reduction at the same time point when compared to both the control and GL-treated groups, as presented in Table No. 4. Consequently, the 400 mg/kg dose of the ethanolic extract was selected for further evaluation in the STZ-induced diabetic rat model. Additionally, by the third hour, serum glucose levels in all groups approached normal, suggesting that the pancreatic function in the rats was intact and capable of efficiently metabolizing the glucose load.

Table No.2: - Effect of ethanolic extract on serum glucose levels in OGTT model in normal rats

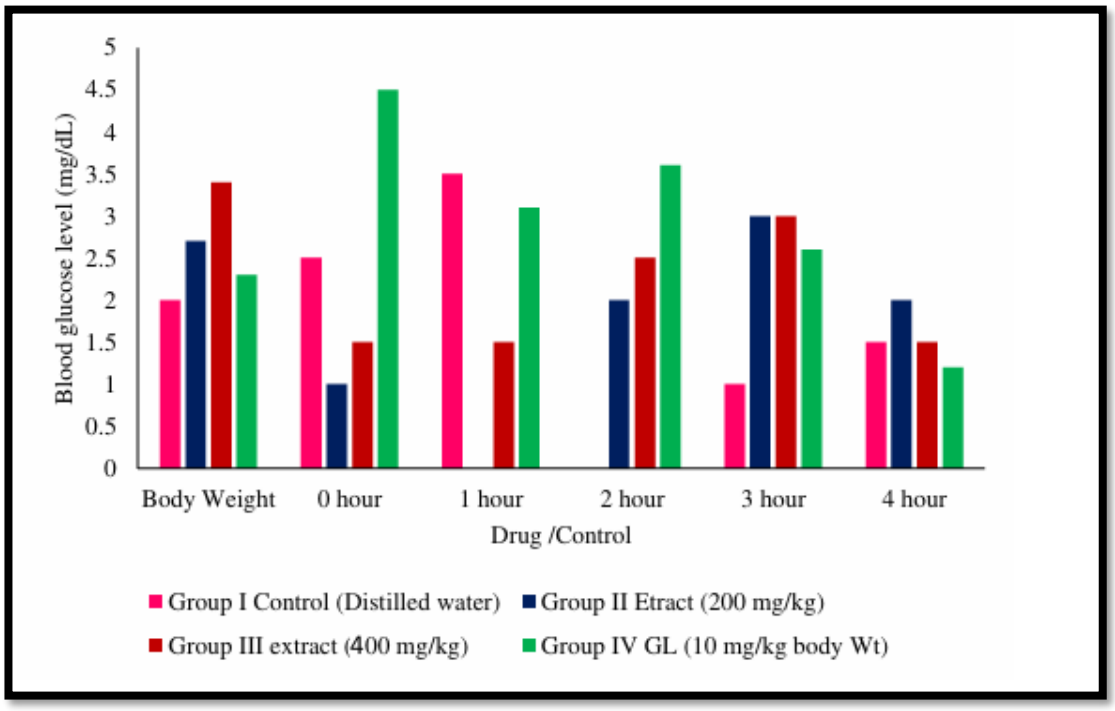
Sr. No.	Drug/Control	Body weight	Blood Glucose level (mg/dL)				
			0 hr	1 hr	2 hr	3 hr	4 hr
1	Group-1 control(distilled water)	178.0 ±2.0	93.0± 2.5	131.0 ±3.5	118.0± 0	120.0± 1.0	101.5± 1.5
2	Group-2 extract (200mg/kg)	165.1 ±2.7	101.0 ±1.0 **	124±0 **	106.0± 2.0 **	102.0± 3.0 *	97.0± 2.0 *
3	Group-3 extract (400mg/kg)	154.6 ±3.4	98.0± 1.5 **	119.0 ±1.5 **	101.0± 2.5 **	95.0± 3.0 *	87.5± 1.5 *
4	Group-4 GL (10 mg/kg body wt)	152.3 ±2.3	110.0 ±4.5 **	121.0 ±3.1 **	118.0± 3.6 **	113.0± 2.6 *	111.5± 1.2 *

Values are represented as mean ± SEM (n=6 rats).

Values are statistically significant at *P < 0.05, P < 0.01.**

GL = Glibenclamide.

Figure No. 1 - Effect of ethanolic extract on serum glucose levels in OGTT model in normal rats



© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

International Journal of Science, Strategic Management and Technology
Volume **02** Issue **04** April-**2026** | ISSN: **3108-1762 (Online)** | Impact Factor: 3.8
An International, Peer-Reviewed, Open Access Scholarly Journal Indexed in recognized academic databases

Effect of Ethanolic Extract on Serum Glucose Levels in Diabetic Rats

The diabetic control group exhibited a steady and progressive increase in serum glucose levels (SGL) throughout the study period. In contrast, rats treated with glibenclamide (10 mg/kg body weight) and those administered the ethanolic extract at a dose of 400 mg/kg showed a significant reduction in SGL on the 7th, 14th, 21st, and 28th days. These reductions were statistically significant ($P < 0.001$) when compared to the diabetic control group, as shown in Table 5. The hypoglycemic effect of the ethanolic extract was found to be time-dependent, with the most pronounced decrease observed on the 28th day. Notably, the reduction in glucose levels on the 28th day was even more significant ($P < 0.001$) compared to the standard drug group, indicating a potentially stronger or sustained antidiabetic effect.

Table No. 3: - Effect of 27 days treatment of ethanolic extract on serum glucose levels of STZ-induced diabetic rat

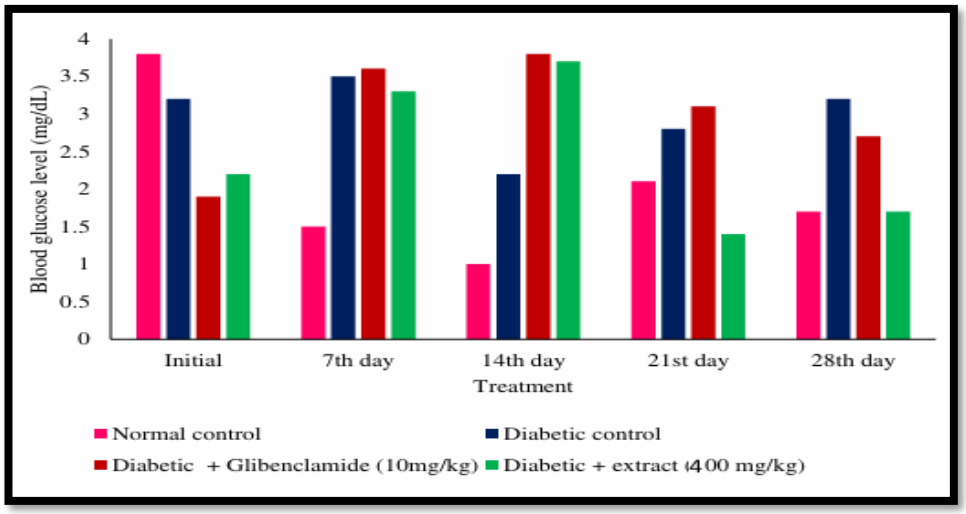
Sr. No.	Treatment	Initial	7th Day	14th Day	21st Day	28th Day
1	Normal control	88.3±3.8	90.0± 1.5	94.0±1. 0	96.8± 2.1	88.0± 1.7
2	Diabetic control	220.5±3. 2	266.3± 3.5	312.3± 2.2	385.0± 2.8	404.3± 3.2
3	Diabetic+Glibenclamide (10mg/kg)	280.0±1. 9 ***	260.0± 3.6 **	154±3. 8 ***	141.1± 3.1 ***	128.5± 2.7 ***
4	Diabetic+ extract (400 mg/kg)	239.1±2. 2 ***	209.6± 3.3 ***	162.3± 3.7 ***	122.3± 1.4 ***	95.8± 1.7 ***

Values are represented as Mean ± SEM (n=6 rats).

Values are statistically significant at ** $P < 0.01$, *** $P < 0.001$.

Diabetic + ethanolic extract compared with diabetic + glibenclamide and normal control rats.

Figure No. 2 - Effect of 27 days treatment of ethanolic extract on serum glucose levels of STZ-induced diabetic rats



© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

International Journal of Science, Strategic Management and Technology
Volume **02** Issue **04** April-**2026** | ISSN: **3108-1762 (Online)** | Impact Factor: 3.8
An International, Peer-Reviewed, Open Access Scholarly Journal Indexed in recognized academic databases

Effect of ethanolic extract treatment on body weight

A significant reduction in body weight was observed in diabetic control animals during the study period. However, treatment with 400 mg/kg of the ethanolic extract and glibenclamide (GL) significantly prevented weight loss on the 21st and 28th days ($P < 0.001$) when compared to the baseline measurements. This protective effect on body weight may be attributed to enhanced insulin secretion and improved food intake. These findings suggest that the ethanolic extract not only aids in glycemic control but may also help mitigate diabetes-associated complications, including weight loss and related cardiovascular risk factors.

Table No.4: - Effect of ethanolic extract treatment on body weight in STZ-induced diabetic rats on 21st day and 28th day

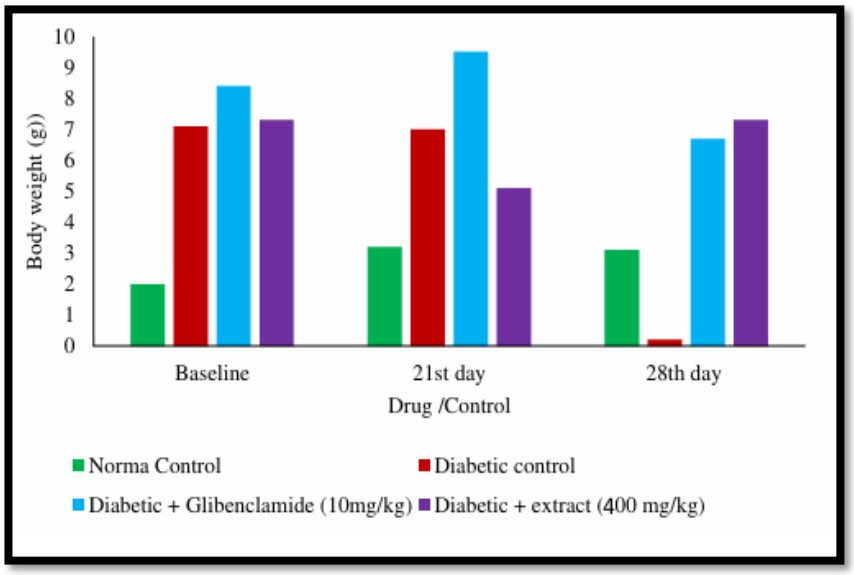
Sr. No.	Drug/Control	Body Weight (g)		
		Baseline	21st Day	28th Day
1	Normal control	178.0±2.0	181.9±3.2	183.2±3.1
2	Diabetic control	163.1±7.1	154.0±7.0	122±10.2 **
3	Diabetic+ Glibenclamide (10mg/kg)	151.6±8.4	152.8±9.5 **	154.1±6.7 ***
4	Diabetic + extract (400mg/kg)	150.3 ±7.3	151.0±5.1 **	155.0±7.3 ***

Values are represented as Mean ± SEM (n=6 rats).

Values are statistically significant at ** P < 0.01, *** P < 0.001.

Diabetic + ethanolic extract compared with diabetic + glibenclamide and normal control rats.

Figure No. 3:- Effect of ethanolic extract treatment on body weight in STZ-induced diabetic rats on 21st day and 28th day



© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

The Oral Glucose Tolerance Test (OGTT) is commonly used to assess the body's capacity to regulate blood glucose levels in normal rats. It serves as a standard method to evaluate diabetes mellitus (DM), insulin resistance, pancreatic beta-cell function, and in some cases, conditions such as reactive hypoglycemia, acromegaly, and other rare carbohydrate metabolism disorders. The concept of glucose tolerance was first introduced in 1923 by Jerome et al. In this study, blood samples were collected at time intervals of 0, 1, 2, 3, and 4 hours post-glucose administration.

The serum glucose levels of extract-treated groups at different doses were compared with the control groups. After one hour, the vehicle-treated group and the glibenclamide (10 mg/kg body weight) group exhibited increases in serum glucose levels of 43.4% and 9.0%, respectively. In contrast, Groups II and III, which received 200 mg/kg and 400 mg/kg of the ethanolic extract, showed more moderate increases of 20.5% and 21%.

Further analysis revealed that the 200 mg/kg dose of the extract resulted in a 13% reduction in blood glucose at the second hour, while the 400 mg/kg dose caused a 16.5% reduction. These were notably higher compared to the control and glibenclamide groups, which showed reductions of 11.3% and 3.4%, respectively, at the same time point. Based on these findings, the 400 mg/kg dose of the ethanolic extract was chosen for further evaluation in a streptozotocin (STZ)-induced diabetic rat model. Notably, all groups exhibited nearly normalized serum glucose levels within three hours, indicating healthy pancreatic function and efficient glucose clearance.

Following the OGTT, the anti-hyperglycemic potential of the ethanolic extract was further assessed in STZ-induced diabetic Wistar rats after 18 hours of fasting. Glibenclamide (10 mg/kg) was used as a standard reference drug. Diabetic rats were treated and monitored for 28 days under normal feeding conditions.

The diabetic control group showed a steady and progressive increase in serum glucose levels throughout the study. In contrast, rats treated with glibenclamide and the ethanolic extract at 400 mg/kg exhibited marked reductions in glucose levels. Specifically, the glibenclamide group demonstrated reductions of 7.1%, 45.5%, 50.1%, and 53.9% on the 7th, 14th, 21st, and 28th days, respectively. The ethanolic extract-treated group showed even greater reductions—12.3%, 33.3%, 49.5%, and 59.7% on the same days. These reductions were statistically significant ($P < 0.001$) when compared to the diabetic control group and appeared to be time-dependent, with the most substantial effects observed by day 28. The glycemic lowering effect of the extract on day 28 was also found to be more significant than that of the standard drug.

Conclusion

The study confirms that Tecoma stans possesses significant anti-diabetic activity and can be explored for drug development.The study confirms that Tecoma stans possesses significant anti-diabetic activity and can be explored for drug development.The study confirms that Tecoma stans possesses significant anti-diabetic activity and can be explored for drug development.The study confirms that Tecoma stans possesses significant anti-diabetic activity and can be explored for drug development.The study confirms that Tecoma stans possesses significant anti-diabetic activity and can be explored for drug development.

© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

References

1. HewageeganaHGSP, ArawalaLADM.2013, Phytochemical And Anti Oxidant Activity Of Traditional Decoction Used For Type 2 Diabetes Mellitus. Universal Journal Of Pharmacy.2(2):134-137.

2. Maninder Kaur, VandanaValecha: 2014 Diabetes and Antidiabetic Herbal Formulations:2 An Alternative to Allopathy. European Journal of Medicine;6(4):226-240.

3. M.Murugan, C.UmaMaheshwaraReddy : 2009, Hypoglycemic and hypolipidemic activity of leaves of Mucunapruriens in alloxan induced diabetic rats. Journal of Pharmaceutical Science and Technology.1(2):69-73.

4. KeshriUmashankerPd, Satish Chandra, Janardan Sharma: 2014 Research Article Antidiabetic Efficacy Of Ethanolic Extract Of HolarrhenaAntidysenterica Seeds In Streptozotocin – Induced Diabetic Rats And Its Influence On Certain Biochemical Parameters. Journal Of Drug Delivery & Therapeutics.2(4):159-162.

5. Vipin Gupta: Type 2 Diabetes Mellitus In India. South Asia Network For Chronic Disease, New Delhi.1-28. Lt Gen SR Mehta VSM, Col AS Kashyap, 2009 Lt Col S Das: Diabetes Mellitus in India: The Modern Scourge-review article. MJAFI ; 65 : 50-54.

6. E.D. Eze, A. Mohammed, K.Y. Musa ,Y. Tanko : 2012 Evaluation of Effect of Ethanolic Leaf Extract of Mucunapruriens on Blood Glucose Levels in Alloxan-Induced Diabetic Wistar Rats. Asian Journal of Medical Science.; 4(1): 23-28.

7. Kalpana Sridharan, Roshni Mohan, Sridharan, Ramaratnam, Deepak Panneerselvam: 2011 Ayurvedic Treatments For Diabetes Mellitus.Cochrane Database Syst Rev. ; 7 (12).

8. Dr. Amritha Rajeev Bams : Life Style Disorder Diabetes Management Through Ayurveda And Yoga Pg Diploma In One Health. Assignment For The Course Oh 001: Concepts Of One Health :1-19.

9. Dr V. Mohan, Dr R. Pradeepa: 2009 Epidemiology Of Diabetes In Different Regions Of India. Health Administrator ; Vol: Xxii Number 1& 2: 1- 18.

10.Emily Loghmani: 2005 Diabetes Mellitis: Type 1 And Type 2, Stang J, Story (eds) Guidelines for Adolescent Nutrition Services.:167182.

11.Murugesh Shivashankar,Dhandayuthapani Mani: 2011 A Brief Overview Of Diabetes .International Journal Of Pharmacy And Pharmaceutical Sciences; 3(4) :22-27.

12.Szkudelski .T. 2001 the mechanism of alloxan and streptozotocin action in B cells of the rat pancreas. Physiological research.;50: p.536-546.

13.Mohammed Z.M.salem .Yousry.M., 2013 African University of microbiology research 7(1):39Kameswaran.S,kothariar, Jotimanivannan. M and Senthilkumar.R, Pharmacologia 2013,4(5):236-246

14.Kameswaran Sugavanam, Suresh Velayutam, Arunachalam Ganeshan 2012,Asian journal of Traditionl medicine 7(1):39

15.Al-Azzawi,Amad,2012.journal of Biological;15(2):92 Thirumal M,kishore G,prathika R ,Sampadass and Nithya 2012 chemical and biological sviences 2(4):488-493

16.Govindappa M,Sadanada TS, Channabasavar and Vinay B.Ragevendra ,2012 International Journal of Pharma and Bio Sciences .275-285

17.Kameswaran S,Suresh v ,Mohan raj M,2012 Pharmatutor art,antiacancer potential of Tecomastanus extract.1(2)1275

18.Singh, S., Miller, C.T., Singh, P., Sharma, R., Rana, N., Dhakad, A.K. and Dubey, R.K., 2024. A comprehensive review on ecology, life cycle and use of Tecoma stans (bignoneaceae). *Botanical Studies*, *65*(1), p.6.

© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.

19.Anand, M. and Basavaraju, R., 2021. A review on phytochemistry and pharmacological uses of Tecoma stans (L.) Juss. ex Kunth. *Journal of Ethnopharmacology*, *265*, p.113270.

20.Mohammed Z.M.salem .Yousry.M., 2013 African University of microbiology research 7(1):39Kameswaran.S,kothariar, Jotimanivannan. M and Senthilkumar.R, Pharmacologia 2013,4(5):236-246

21.Kameswaran Sugavanam, Suresh Velayutam, Arunachalam Ganeshan 2012,Asian journal of Traditionl medicine 7(1):39

22.Kameswaran S,Suresh v ,Mohan raj M,2012 Pharmatutor art,antiacancer potential of Tecomastanus extract.1(2)1275

23.Al-Azzawi,Amad,2012.journal of Biological;15(2):92 Thirumal M,kishore G,prathika R ,Sampadass and Nithya 2012 chemical and biological sviences 2(4):488-493.

24.Anburaj, G., Marimuthu, M., Rajasudha, V. and Manikandan, R., 2016. In vitro anti-cancer activity Tecoma stans against human breast cancer yellow elder (Tecoma stans). *Journal of Pharmacognosy and Phytochemistry*, *5*(5), p.331.

25.Govindappa M,Sadanada TS, Channabasavar and Vinay B.Ragevendra ,2012 International Journal of Pharma and Bio Sciences .275-285

26.Kameswaran S,Suresh v ,Mohan raj M,2012 Pharmatutor art,antiacancer potential of Tecomastanus extract.1(2)1275

27.Raju S, Kavimani S,Uma Maheswra Rao,Sreeramlu reDdy k,2011 Journal of Pharamaceutical and bio medical Sciences,8(7):1-5

28.Krishna A V L N, vineela P A S and ravikmar, 2009 phytochemical screening analysis of Tecoma Stanus extracts .int j chem. Si(2):1439-1438

29.Linn j ,Gross D,Paul M,2008 antimicrobial and antioxidant studies of plant extracts, International Journal Of Medical Sciences 146-149

30.Socolwsji , Mongaddam M A,dhadorams. 2008 anti spasmodic effect of Tecomastanus (L)jugs leaf extract on rat ileum123-12

31.Gharib Naseri , Mognaddam M A, Dhadroms 2007. anti spasmodic effect of Tecoma Stans.Leaf extract 123-8

32.Rakhi Mishra, MohdShuaib, Shravan, PremShanker Mishra: 2011 A review on herbal antidiabetic drugs. Journal of Applied Pharmaceutical Science ;01 (06): 235-237.

33.Manish Gunjan, Ravindran M, Goutam K. Jana: 2011 A Review on Some Potential Traditional Phytomedicine with Antidiabetic Properties. International Journal of Phytomedicine; 3: 448-458 .

34.M.Upendra Rao, M.Sreenivasulu, B.Chengaiah, K.Jaganmohan Reddy, C.Madhusudhana Chett:2010 Herbal Medicines for Diabetes Mellitus: A .Review. International Journal of Pharm Tech Research CODEN (USA).2010;2(3): 1883-1892.

35.Chauhan, P. K. Sharma, P. Srivastava, N. Kumar, R. Dudhe: Plants Having Potential Antidiabetic Activity: A Review . Der Pharmacia Lettre,;2(3): 369-387.

© Author(s). This work is peer-reviewed, openly published, and permanently archived
This article is openly accessible and reusable with proper attribution.