

**ANTIDIABETIC ACTIVITY OF ABELMOSCHUS ESCULENTUS FRUIT EXTRACT**

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\*Corresponding Author: [subbu.mpharmacy@gmail.com](mailto:subbu.mpharmacy@gmail.com)**ABSTRACT**

The anti diabetic activity of Abelmoschus Esculentus( ladiesfinger )fruit extract was observed in rabbits (2.5 kgs).Artificial Diabetic nature was induced in rabbits by injecting ALOXAN. Here the suspending agent is SPAN-90. The standard drug METFORMINE 1mg/ml and ABELMOSCHUS ESCULENTUS 1 mg/ml were dissolved in saline water and given orally. The blood glucose level of rabbits was noted at regular intervals of time. A gradual decrease in the blood glucose levels was observed by regular feeding of "okra" Abelmoschus Esculentus ( ladiesfinger) fruit extract for about ten days.

**Keywords:** Abelmoschus esculents, Diabetes, Study on Rabbits, Blood sugar levels, HPLC.

**INTRODUCTION**

In India Ladies Finger (OKRA) is more commonly used vegetable in both south and north INDIA. The scientific name of OKRA is "ABELMOSCHUS ESCULENTUS". Now days the disease DIABETES is commonly observed in Indians due to the changes in the life style. In AYURVEDHA which is an old traditional medicinal treatment also said the OKRA is more useful to so many diseases. On literature survey, the OKRA also acts as Anti Physieo chemical<sup>1</sup>, Hypolipidemic effective drug <sup>2</sup>.Anti depressant<sup>3</sup>.In order to check we did the anti diabetes activity of ABELMOSCHUS ESCULENTUS experiment in rabbits. For this study we used Metformin drug as standard.

**MATERIALS AND METHODS****Preparation of extract**

The fruits of Abelmoschus Esculentus were chopped and soaked in water for 1hr and

squeezed so that the mucilage enters the water this extract is further used to observe its anti diabetic activity.

To observe the anti diabetic activity of the extract two male rabbits (2.5-3. rabbits0 kg) and a Glucometer ( ACCU-CHECK ACTIVE) to observe the blood glucose levels of rabbits were used. The blood glucose levels of the rabbits were checked initially using Glucometer. Artificial Diabetic nature was induced in rabbits by injecting ALOXAN. After 24 hours the blood glucose levels were checked. An increase in the blood glucose levels was observed in both rabbits. The Abelmoschus Esculentus fruit extract was given along with feed to rabbit-1. The second rabbit also treated as first rabbit, but here the second rabbit was given METFORMIN as anti Diabetes drug. For every 24 hours, early in the morning fasting blood sugar of Rabbits was observed . A gradual decrease in the blood glucose levels of the rabbits was observed.

In other experiment, the qualitative analysis of ethanol extract of "OKRA" by H.P.L.C there is few active ingredients was observed. In this experiment mobile phase is Methanol: Water in 70:30, P<sup>H</sup> of mobile is 5.8,run time 7 minutes. Column, C<sub>18</sub> chromosil.

RESULTS AND DISCUSSIONS

Table 1: Glucose levels in Rabbit Blood

Days	Glucose levels in rabbit-1 mg/dL	Glucose levels in rabbit-2 mg/dL
0	84	86
1	131	129
2	128	112
3	123	110
4	121	109
5	119	106
6	117	102
7	112	97
8	109	96
9	107	94
10	106	88

\*Blood collection time 7.30 AM, \*Feeding time 8.00AM

Fig.1

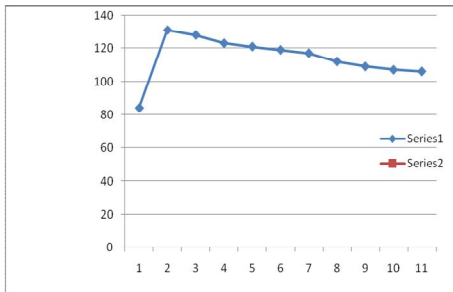
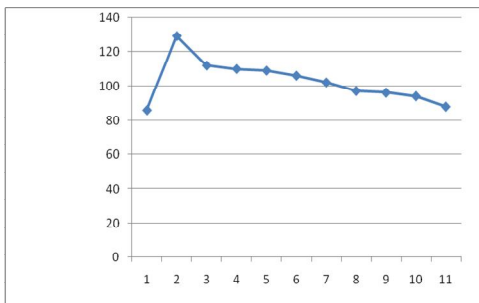
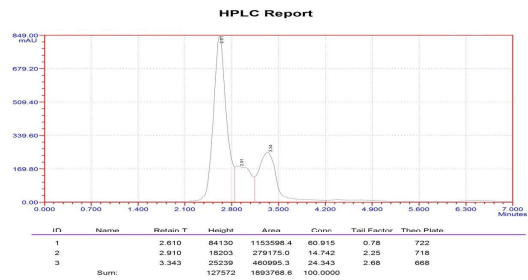


Fig. 2

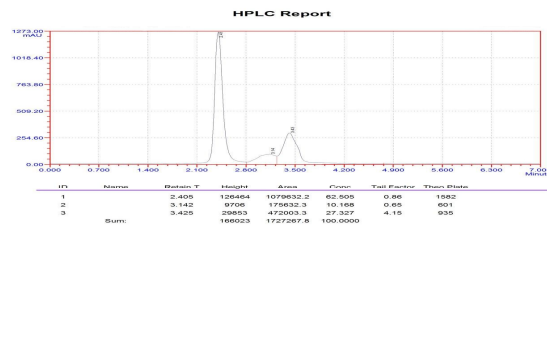


QUALITATIVE ANALYSIS OF DIFFERENT EXTRACTS BY H.P.L.C

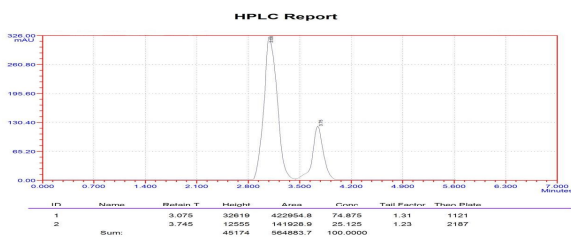
F+S



F-S

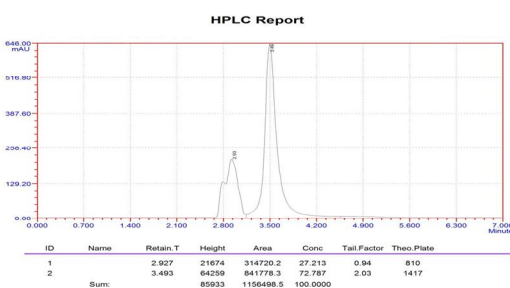
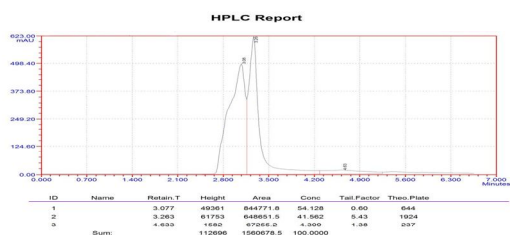


Mucilage



Fruit without seed	03
Mucilage	02
seed	03

**Seed**



OKRA in Ethanol	No. of compounds identified
Fruit + seed	03

Abelmoschus Esculentus (OKRA) vegetable have more protein, carbohydrate content. With our experiment we identified clearly that it has Anti diabetes activity. On H.P.L.C analysis around R.T 3.2 and 3.3min a regular peak obtaining in every extraction. May be it is a protein peak which one cause for anti diabetes activity.

The standard drug Metformine also given a peak at same Retention Time. The basic skeleton and active functional groups of protein may similar with protein in OKRA.

**CONCLUSION**

OKRA is a natural product and it has anti Diabetic activity so the usage of the soaked OKRA water of KRA is not harmful to human health. Our in viva condition experiments in rabbits shown a good result on Anti Diabetic activity. It shown in figure 1,2. Our experiment given an preliminary information on this activity. In future by the structural illustration of that protein we can synthesized by chemically.

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