1. Test material: *Surshyam madhumehnashak*

2. Supplier: Shri Mahajit Singh,
Village Nagla,
P.O. Soukh,
Distt. Mathura

3. Type/Nature: Ayurvedic Preparation

4. Composition: Not known

5. Desired Testing: Biological Testing (Antihyperglycemic)

6. **Summary:**

(i) **The sample was first tested in sucrose loaded rat model at 100, 150, 200, 250 and 500 mg/kg dose levels. Oral glucose tolerance curve of treated groups were compared with untreated control and the percentage difference was termed as antihyperglycemic activity. Significant antihyperglycaemic activity was noted in the sample. Results are presented in Fig 1 (enclosed).**

(ii) **Based on the results obtained in the primary screening model, the sample was further tested in streptozotocin induced diabetic rat model. The sample was given at 50, 100, 150, 200, 250 and 500 mg/kg dose to the diabetic rats, respectively. Again significant antihyperglycaemic activity was noted in the sample in this model too. Results are presented in Fig 2 (enclosed).**

7. Detailed report on "Surshyam madhumehnashak"

Evaluation protocols:

I. ***Antihyperglycaemic activity in Sucrose loaded rat model*:**

Male albino rats of either Charles Foster or Wistar strain of average body weight 160 ± 20 g were selected for this study. Fasting blood glucose level of each animal was checked by glucometer using glucostrips (Boehringer Mannheim) after an overnight starvation. Animals showing blood glucose between 60 to 80 mg/dl (3.33 to 4.44 mM) were finally selected and were divided into groups of five animals in each. Rats of experimental group were administered the suspension of the test compound orally (made in 1.0% gum acacia) at desired dose levels (250 mg/kg body weight in case of plant extracts and 100 mg/kg in case of plant fraction and synthetic compounds). Animals of control group were given an equal amount of 1.0% gum acacia. A sucrose load of 10 g/kg body weight was always given to each animal orally exactly after 30 min post administration of the test sample/ vehicle. Blood glucose profile of each rat was again determined at 30, 60, 90 and 120 min post administration of sucrose by glucostrips. Food but not water was withheld from the cages during the course of experimentation. Comparing the AUC of experimental and control groups determined the percentage antihyperglycemic activity.

II. *Antihyperglycaemic activity evaluation in Sucrose-challenged low dosed Streptozotocin-induced diabetic rats*

Streptozotocin (Sigma, USA) was dissolved in 100 mM citrate buffer pH 4.5 and calculated amount of the fresh solution was injected to overnight fasted male albino rats of S.D. strain rats (45 mg/kg) intraperitoneally. Blood was checked 48 h later by glucostrips and animals showing blood glucose values between 144 to 270 mg/dl (8 to 15 mM) were included in the experiments and termed diabetic. The diabetic animals were divided into groups consisting of five animals in each group. Rats of experimental groups were administered suspension of the desired test samples orally (made in 1.0% gum acacia) at 100 mg/kg body weight. Animals of control group were given an equal amount of 1.0% gum acacia. A sucrose load of 2.5 g/kg body weight was given after 30 minutes of drug administration. After 30 minutes of post sucrose load, blood glucose level was again checked by glucostrips at 30, 60, 90, 120, 180, 240, 300 minutes and at 24 hour, respectively. Food but not water was withheld from the cages during the experimentation.

Comparing the AUC of experimental and control groups determined the percent antihyperglycaemic activity. Statistical comparison between the groups was made by Student's't' test.

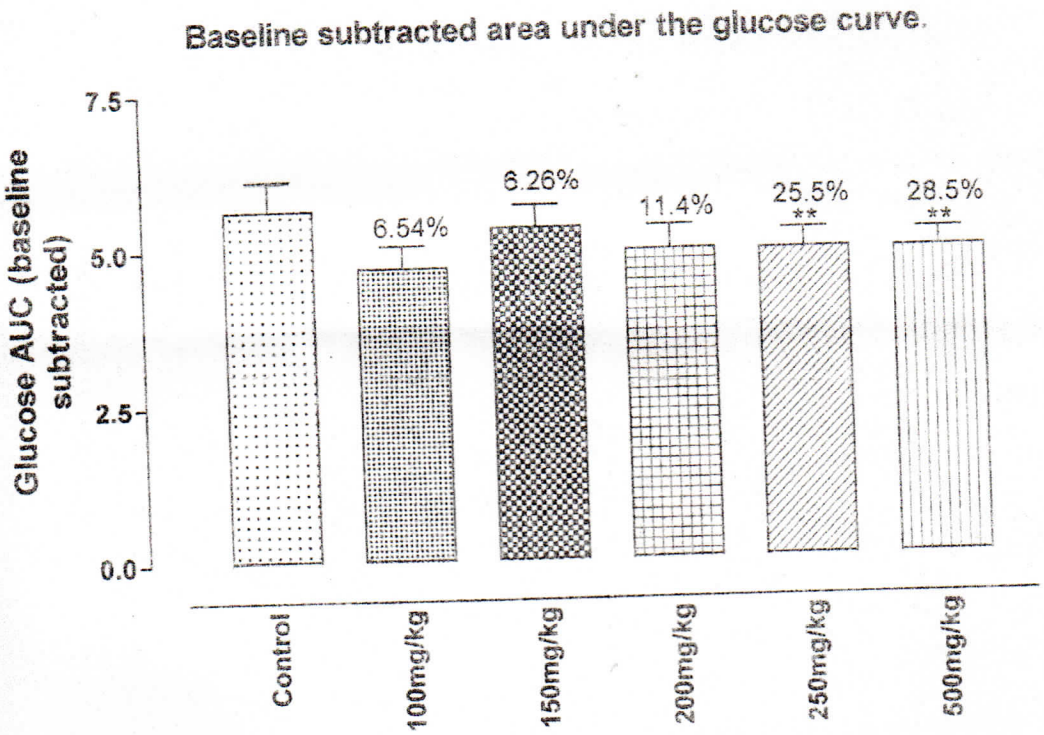
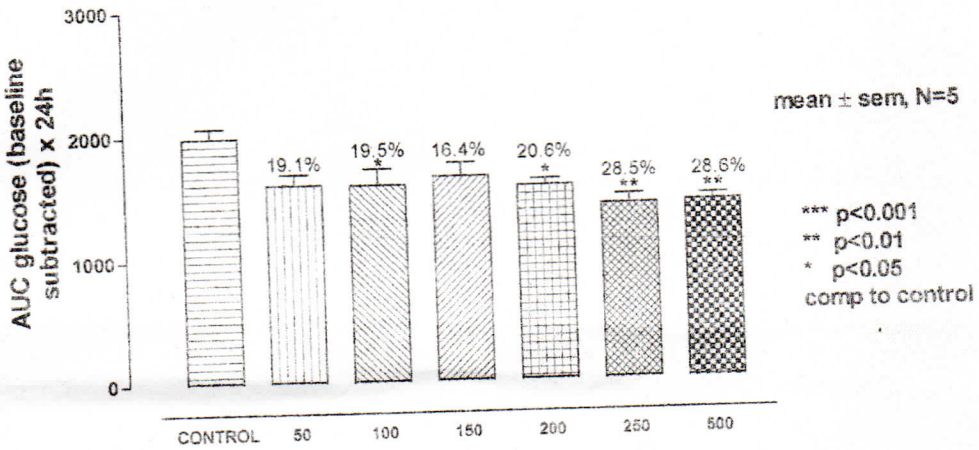


Fig 1: Effect of Surshyam madhumehnashak in sucrose loaded rat



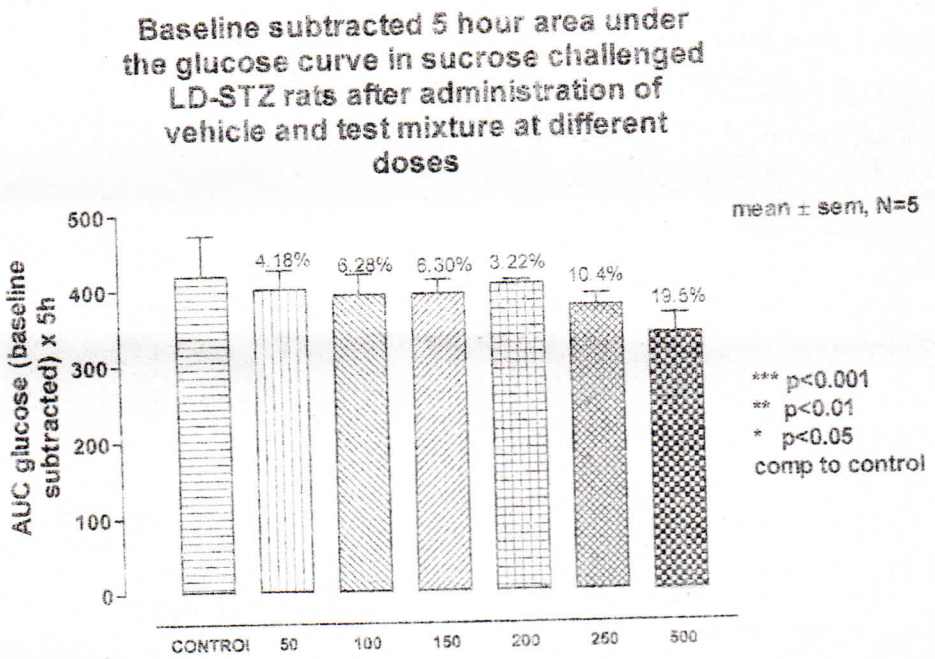


Fig 2: Effect of "Surshyam" madhumehnashak in sucrose-challenged low dose streptozotocin-induced diabetic rat model

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Important Note: The above results are based on preliminary biological evaluation in rats and under no circumstances can be directly extrapolated in human beings without appropriate studies in higher animals and clinical studies in humans.

Dr Arvind Kumar Srivastava
BIOCHEMISTRY DIVISION

certified

17/10/2006

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Web : http://www.cdriindia.org.

डा० राम रघुवीर
एफ.आई.ए.एन.एस.सी.
उपनिदेशक व विभागाध्यक्ष,
औषधि प्रभाव विज्ञान प्रभाग

दिनांक 7-8-2006

प्रिय श्री सिंह जी,

आपके द्वारा उपलब्ध कराया गया द्रव "सूरश्याम मधुमेह नाशक" इस संस्थान में मधुमेह रोगी चूहों में परीक्षण के दौरान उनकी उच्च रक्त शर्करा को कम करने में प्रभावी पाया गया। 250 मिली ग्राम प्रति किलो ग्राम की मात्रा लगभग एक माह तक इन चूहों में दिए जाने पर औसतन 28 प्रतिशत रक्त शर्करा को कम करने की छमता रखती है।

सादर,

आपका

17/8/06

(डा० राम रघुवीर)

श्री महाजीत सिंह
पुत्र श्री अमर सिंह,
निवासी-ग्राम नगला देविया,
पोस्ट-सोंख,
जिला-मथुरा।

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