

# Natural Spirulina Drugs Used in Antidiabetic Disease

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**Abstract - Spirulina is a type of blue-green algae that contains a number of Nutrients, including B vitamins, beta-carotene, and vitamin blue-green Algae or cyanobacteria. Spirulina is rich in proteins, vitamins, and minerals. The cyanobacteria, Through the process of photosynthesis, converts sunlight into nearly all Essential nutrients. Spirulina usually grows in warm, open lakes with high Alkalinity, Spirulina consists of an amino acid called phenylalanine. Spirulina Products in patients with phenylketonuria. Spirulina is a filamentous and multicellular blue-green alga capable of Reducing inflammation and also manifesting antioxidant effects. It is a rich Source of vitamins, especially vitamin B12, minerals, protein, and carotenoid. Spirulina is a valuable cyanobacterium that can be used as a food Supplement for the management of metabolic. Spirulina diabetic group, It could be concluded that the current algae Has multi-beneficial actions in controlling diabetes natural antidiabetic drug.**

## INTRODUCTION

Diabetes mellitus (DM) is due to metabolic imbalance which is nonphysiological. It is classified as defects in insulin secretion which is termed as type-1, resistance to insulin action which is termed as type-2. Diabetes Mellitus is associated with hyperglycemia which would cause damage to the Blood vessels, eyes, nerves and kidneys. Diabetes mellitus will affect social, Psychological and physical activities of the life. results in membrane depolarization to open voltage-gated calcium channels, which increases intracellular calcium and stimulates insulin release. This also reduces glucose from the liver, which blocks the conversion of glycogen to glucose. Diabetes mellitus patients are reported to have higher incidence of myocardial infarction than non- Diabetes mellitus patients. Spirulina platensis has been found to be useful in the treatment of Type- 2 diabetes. The present study aims to elucidate the effects of ethanol Extract and butanol fraction of S. platensis on insulin release

and glucose Homoeostasis in type 2 diabetic rats, together with their mechanism of Actions.

## ANTIDIABETIC EFFECTS OF SPIRULINA

Diabetes mellitus is a common metabolic disorder characterized by Increase in the blood sugar along with alterations in carbohydrate, fat and Protein metabolism, associated with defects in insulin secretion and/or Insulin action.

Diabetes is one of the most important diseases worldwide, Reaching epidemic proportions.

Chronic hyperglycemia is associated with microvascular and Macrovascular complications that can lead to visual impairment, blindness, kidney disease, nerve damage, amputations, heart disease, and stroke.

These complications account for premature mortality and most of the social and economic burden in the long term of diabetes.

Dietary restrictions, planned exercise and administration of oral glucose lowering agents are Applied widely to control elevated blood glucose level

## MORPHOLOGY

Spirulina is symbiotic, multicellular, and filamentous bluegreen microalgae with symbiotic bacteria that fix nitrogen from air.

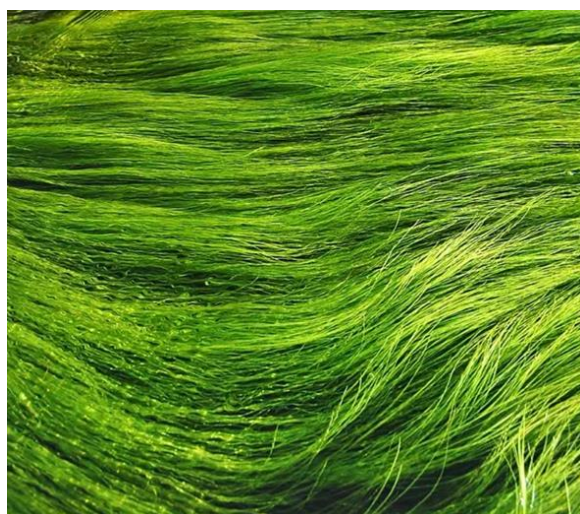
It is Recognizable by the arrangement of the multicellular cylindrical trichomes in an open left-hand helix along the entire length.

The body surface of Spirulina is smooth and without covering, so it Easily digestible by simple enzymatic systems.

Its main photosynthetic Pigment is phycocyanin, which is blue in color.

It also contains chlorophyll and carotenoids. Some contain the Pigment phycoerythrin, giving a red or pink color.

Spirulina are photosynthetic and therefore autotrophic



#### ANTIOXIDANTS PROPERTIES OF SPIRULINA

help to protect the body against free radicals these are Substances that neutralize free radicals or their actions.

Antioxidants include Carotenoids, flavonoids and related polyphenols,  $\alpha$ -lipoic acid, glutathione.

The main source of antioxidants for the body is vegetables and fruits.

Unavailable of fruit and vegetables in many antioxidants from other sources, Great efforts and extensive investigations have been development of Nutraceuticals or functional food for preventing or managing various Disease.

It is also having natural dye in food industry, cosmetic and Pharmaceutical industry Chlorophyll Chlorophyll is an essential compound in Many everyday products. It is used not only as an additive in Pharmaceutical and cosmetic products but also as a natural food coloring Agent.

#### SPIRULLA IS USED IN ANTIDIABETIC DRUGS

Diabetes mellitus (DM) is due to metabolic imbalance which is nonphysiological.

It is classified as defects in insulin secretion which is termed as type-1 ,resistance to insulin action which is termed as type-2. Diabetes Mellitus is associated with hyperglycemia which would cause damage to the Blood vessels, eyes, nerves and kidneys.

Diabetes mellitus will affect social, Psychological and physical activities of the life.

Some of the clinical Manifestations of Diabetes mellitus are polyuria, weight loss, blurring of Vision and thirst.

#### Benefits of Spirulina

Spirulina is a nutrient-dense blue-green algae used as a nutritional supplement.

It is purported to help reduce fatigue and boost energy, lower cholesterol, and triglyceride levels, stimulate the immune system, fight viral infections, and aid in weight loss.

Spirulina might help you achieve healthy cholesterol levels, by lowering “bad” LDL cholesterol and triglycerides while raising “good” HDL cholesterol.

#### Uses of Spirulina:

It is also anti-inflammatory agent, and also used in food supplements, it is also used in immune mediated.

It also uses in dietary supplement.

It is used for the natural medicine and natural cosmetic.

#### REQUIREMENTS

Natural algae, cloth, punching machine, beaker,

#### PROCEDURE

1. Take a natural algae and mix it well in a beaker
2. After that take a cloth ,on the cloth spread the algae very well
3. This cloth takes in under the sometime in sun ray

4. After some time algae convert into thin layer of solid
5. Take this and mix properly to conversion on Powder form
6. The powder form algae to make the tablet by the help of punching machine.

#### CONCLUSION

The spirulina also boosts the production of white blood cells and antibodies that fight viruses and bacteria in human body.

Spirulina shows potent immune stimulating effects

Spirulina shows preventive agent in diabetic disease.

The most adverse effect headache, muscle pain, sweating.

There is need of research to promote its health benefits.

#### RESULTS

Natural spirulina drugs used in antidiabetic disease was studied.

The result of our study also shows that the reduce the antioxidant enzyme levels.

To study have explored spirulina health benefits.

Our study to treatment of diabetic drug improved.

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