**Description**

**A COMPOSITION FOR REDUCING INSULIN DEPENDENCE IN THE TYPE 1 DIABETES DISEASE**

**Technical Field**

The invention relates to a composition formed for reducing the insulin dependence in the type 1 diabetes disease.

**State of the Art**

Our body’s requirement for energy is provided from the essential nutrients of carbohydrates, proteins and fats in our foods. The most important nutrients that are broken down to the smallest fragments in order to be absorbed are the simple sugars called “glucose”. Glucose is a significant source of nutrition for all the organs in the body, especially the brain. The cells utilize the glucose they need with the help of an enzyme secreted by the pancreatic gland behind the stomach. In case this hormone, known by the name insulin, is not able to be produced in the body, the intake of foods will not be able to be used in the form of energy.

Type 1 diabetes, which results from the lack of insulin hormones, is also called “Juvenile Diabetes”, as it is frequently seen in the children and young adults. Type 1 diabetes is caused by the damage, as a result of an autoimmune process, to the insulin-producing beta cells in the pancreas. Since there is an absolute or relative insulin deficiency, the patients have to externally receive the insulin hormone (by way of injection) during their entire life. For this reason, Type 1 diabetes is also called Insulin Dependent Diabetes Mellitus (IDDM). In general, type 1 diabetes cases constitute 10% of the diabetes cases in the society. Incidence of type 1 diabetes among the children shows variation between the countries (regions) and diabetes develops in 1-42 per 100.000 children under 15 years of age. In general, type 1 diabetes is encountered more frequently in the northern countries.

As a result, the presence of the need for a composition formed for reducing the insulin dependence in the Type 1 diabetes disease and the inadequacy of the existing solutions have made it necessary to perform an improvement in the relevant art.

**Object of the Invention**

In order to eliminate the disadvantages of the state of the art, an object of the invention is to increase the Glut4 translocation by stimulating the androgen receptor owing to the partial androgenic effect.

Another object of the invention is to increase the level of 2-deoxyglucose.

Another object of the invention is to effectively balance the blood sugar.

Another object of the invention is to increase the insulin sensitivity of the muscle tissues.

Another object of the invention is to trigger PPAR gamma inhibition.

Another object of the invention is to increase the extent of sugar transfer to the muscles, owing to the androgenic effect.

Another object of the invention is to suppress both IL-6 and Il-4 and trigger a reduction in level of both nf-kappa B and Tnf-alpha.

Another object of the invention is to suppress IgE expression.

Another object of the invention is to increase the cell renewal and the protein synthesis.

Another object of the invention is to increase the sugar and nutrient intake of the muscles.

In order to achieve the aforesaid advantages, the invention is a composition formed for reducing the insulin dependence in the type 1 diabetes disease, said composition being obtained by the components selected from the group comprising cordifolia extract, hibiscus rosa sinensis extract, eurycoma longifolia extract that are used individually or in combinations.

The structural and characteristic features and all the advantages of the invention will become more clearly understood from the detailed description provided below and therefore, the evaluation must be made taking this detailed description into consideration.

**Detailed Description of the Invention**

The invention is a composition formed for reducing the insulin dependence in the type 1 diabetes disease.

Tinaspora Cordifolia (10:1) extract, an ingredient of the invention, increases the Glut4 translocation by stimulating the androgen receptor owing to its partial androgenic effect. It increases the level of 2-deoxyglucose. It effectively balances the blood sugar. It increases the insulin sensitivity of the muscle tissues. It triggers PPAR gamma inhibition.

As in Tinaspora, Hibiscus Rosa Sinensis extract (10:1), another ingredient of the invention, increases the extent of sugar transfer to the muscles, owing to its androgenic effect, and increases the insulin sensitivity of the muscle tissues.

As in tinaspora and hibiscus rosa sinensis extracts, eurycoma longifolia (100:1), another ingredient of the invention, suppresses both IL-6 and Il-4 and triggers a reduction in level of both nf-kappa B and Tnf-alpha. It suppresses IgE expression. Eurycoma Longifolia increases Igf-1 expression to increase the cell renewal and the protein synthesis. Igf-1 increases the sugar and nutrient intake of the muscles.

This formulation also enables an effective reduction in the necessity of insulin use owing to activation of glut 4 and increase of the level of 2-deoxyglucose, stimulation of AMPK and inhibition of PPAR gamma, increase of the insulin sensitivity of the muscle cells via tnf-alpha reduction and the suppression of the pro-inflammatory cytokines (tnf-alpha, IL-6, IL-4 and IgE) that trigger the autoimmune destruction, which is the cause of the type 1 diabetes disease.

The composition according to the invention contains cordifolia extract, hibiscus rosa sinensis extract, eurycoma longifolia extract.

Said formulation is obtained by a mixture of the aforesaid components according to the following ratios by weight:

6 – 28%, preferably 6.72-27.28% cordifolia extract (10:1),

14 – 52%, preferably 14.68-52.87% hibiscus rosa sinensis extract (10:1),

78 – 19%, preferably 78.6-19.5% eurycoma longifolia extract (100:1).

The composition is obtained from the aforesaid components selected from the aforesaid group and used according to the mentioned weight ratio ranges individually or in combinations.

Said invention also encompasses the use of said composition for reducing the insulin dependence in the type 1 diabetes disease and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition formed for reducing the insulin dependence in the type 1 diabetes disease, said composition being obtained by the components selected from the group comprising cordifolia extract, hibiscus rosa sinensis extract, eurycoma longifolia extract that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 6 – 28% by weight cordifolia extract (10:1).
3. A composition according to Claims 1 and 2 characterized in that it comprises 6.72 - 27.28% by weight cordifolia extract (10:1).
4. A composition according to Claim 1 characterized in that it comprises 14 – 52% by weight hibiscus rosa sinensis extract (10:1).
5. A composition according to Claims 1 and 4 characterized in that it comprises 14.68-52.87% by weight hibiscus rosa sinensis extract (10:1).
6. A composition according to Claim 1 characterized in that it comprises 78 – 19% by weight eurycoma longifolia extract (100:1).
7. A composition according to Claim 1 characterized in that it comprises 78.6-19.5% by weight eurycoma longifolia extract (100:1).
8. Use of the components according to Claims 1 to 4 obtained individually or in combinations from the group consisting of cordifolia extract, hibiscus rosa sinensis extract, eurycoma longifolia extract for the manufacture of a composition for reducing the insulin dependence in the type 1 diabetes disease.

**ABSTRACT**

**A COMPOSITION FOR REDUCING INSULIN DEPENDENCE IN THE TYPE 1 DIABETES DISEASE**

The invention relates to a composition formed for reducing the insulin dependence in the type 1 diabetes disease.

No figure.