**Description**

**A FORMULATION INTENDED FOR TREATMENT OF TYPE 1 DIABETES**

**Field of Invention**

The present invention herewith discloses a formulation developed for treatment of type 1 diabetes.

**Background of the Related Technology**

At present it is known that Diabetes mellitus, which is frequently referred to as diabetes, is a metabolic disorder resulting from abnormal increase of blood glucose levels (hyperglycemia) that results generally from genetic as well as environmental factors. The regulation of blood sugar in the body is managed by interaction of various number of chemical agents and hormones. Most important hormone, among those that play a major role in regulating the sugar metabolism, is the insulin hormone, which is secreted by the beta cells in pancreas. Diabetes Mellitus is a general term used to define a group of diseases caused by high blood sugar level, resulting either from insufficient level of insulin secretion or a disorder in the action of the insulin. Diabetes develops either by reduction in insulin production (in Type 1 diabetes) or development of resistance against insulin (in Type 2 diabetes or gestational diabetes).

In state of art technology, invention no "EP1894567B1", with title " Concomitant pharmaceutical agents and use thereof" and under classification number "A61K 31/496" discloses a concomitant preparation for simultaneous or separate use, comprising a combination of (a) the compound 3-[(2S,4S)-4-[4-(3-methyl-1-phenyl-1H-pyrazole-5-yl) piperazin-1-yl]pyrrolidin-2-ylcarbonyl]thiazolidine, an organic or inorganic mono- or di-basic acid or a solvate of the compound or salt and (b) at least one active ingredient selected from the group consisting of an active ingredient of a pharmaceutical agent selected from (i) an anti-diabetic medicament, (ii) a lipid lowering medicament, (iii) anti-hypertensive medicament, (iv) a therapeutic medicament for a diabetic complication, (v) an anti-obesity medicament, (vi) an anti-platelet medicament and (vii) an anti-coagulant, a pharmaceutically acceptable salt of each of these agents and a solvate of each of the agents or the salt.

Again invention no "EP2195312B1", with title "Pyridine derivatives useful as glucokinase activators" and under classification number "C07D 417/12" discloses novel heterocyclic compounds with formula (I) where R^, R^ R"\* and D, which have the meanings as defined in Claim I, which are glucokinase activators and are used for prevention and/or treatment of Diabetes Type 1 and 2, obesity, neuropathy and nephropathy.

Again invention no "EP1758558B1", with title " Oligonucleotide-containing microspheres, their use for the manufacture of a medicament for treating diabetes type 1" and under classification number "A61K 9/16" discloses microspheres comprising of oligonucleotides for treatment of type 1 diabetes; wherein the referred oligonucleotides comprise about 30% to 100% of the microspheres, based on total weight of the microspheres; the referred microspheres have an average particle size of not greater than 50 microns; wherein it is aimed to have the oligonucleotides to bind to primary transcripts selected from a group of CD40, CD80 and CD86 primary transcripts and the combinations thereof.

To conclude it has become inevitable to proceed with a development in the area of the related technology, considering the inadequacy of the existing solutions and the need for a formulation intended for treatment of type 1 diabetes.

**Objective of the Invention**

To overcome the disadvantages experienced in state of art technology;

* One objective of the present invention is to trigger cell repair by re-establishing the cell wall permeability of the active pancreatic beta cells.
* One other objective of the invention is to enhance the neuro-endocrinal connection.
* One other objective of the invention is to stimulate insulin secretion by cAMP increase.
* One other objective of the invention is to stimulate insulin secretion by its systemic phosphodiesterase suppression capability.
* One other objective of the invention is to reduce the tnf-alpha and interleukin-6 levels which lead to autoimmune damage, based on its immunomodulative capability.

The present invention which is aimed to achieve the above-mentioned advantages, is intended for treatment of type 1 diabetes and is a formulation that is obtained by combination of the compositions selected in a single form or in combinations from a group containing; 3,7-bis(2-hydroxymethyl)-8-(3-methyl-2-butene-1-yl)-4H-1-benzopyrane-4-one, 11-dioxy-methoxyfloro-hecogenin.

Structural and characteristic properties as well as all the advantages of the invention presented herewith will be clearly understood with the detailed description provided below and thus the evaluation regarding the present invention should be based on the detailed description presented herewith.

**Detailed Description of the Invention**

The present invention herewith discloses a formulation developed for treatment of type 1 diabetes. Referred formulation triggers cell repair by re-establishing the cell wall permeability of the active pancreatic beta cells, enhances the neuro-endocrinal connection, stimulates insulin secretion by cAMP increase, stimulates insulin secretion by its systemic phosphodiesterase suppression capability, reduces the tnf-alpha and interleukin-6 levels which lead to autoimmune damage, based on its immunomodulative capability.

The formulation of the invention presented herewith contains; 3,7-bis(2-hydroxymethyl)-8-(3-methyl-2-butene-1-yl)-4H-1-benzopyrane-4-one, 11-dioxy-methoxyfloro-hecogenin .

The referred formulation is formed by mixing the above-mentioned components at below percentages by weight;

* 30-70% of 3,7-bis(2-hydroxymethyl)-8-(3-methyl-2-butene-1-yl)-4H-1-benzopyrane-4-one,
* 70-30% of 11-dioxy-methoxyfloro-hecogenin.

Components given above are obtained by combining the components from the above-mentioned group at the given range of weight ratios in a single form or in combinations thereof.

The present invention at the same time discloses using the above-referred formulation for treatment of type 1 diabetes and manufacturing it for such purpose.

**CLAIMS**

1. A formulation intended for treatment of type 1 diabetes, which consists of combining the components selected from the group; 3,7-bis(2-hydroxymethyl)-8-(3-methyl-2-butene-1-yl)-4H-1-benzopyrane-4-one, 11-dioxy-methoxyfloro-hecogenin in a single form or in combinations thereof.
2. The formulation of Claim 1 which is characterized by containing 30-70% of 3,7-bis(2-hydroxymethyl)-8-(3-methyl-2-butene-1-yl)-4H-1-benzopyrane-4-one by weight.
3. The formulation of Claim 1 which is characterized by containing 70-30% of 11-dioxy-methoxyfloro-hecogenin by weight.
4. Using the compositions obtained by selecting singly or in combination of components from the group of; 3,7-bis(2-hydroxymethyl)-8-(3-methyl-2-butene-1-yl)-4H-1-benzopyrane-4-one, 11-dioxy-methoxyfloro-hecogenin from any one as given in Claims 2-3 in manufacturing the formulation intended for treatment of type 1 diabetes.

**SUMMARY**

**A FORMULATION INTENDED FOR TREATMENT OF TYPE 1 DIABETES**

The present invention herewith discloses a formulation developed for treatment of type 1 diabetes. Referred formulation triggers cell repair by re-establishing the cell wall permeability of the active pancreatic beta cells, enhances the neuro-endocrinal connection, stimulates insulin secretion by cAMP increase, stimulates insulin secretion by its systemic phosphodiesterase suppression capability, reduces the tnf-alpha and interleukin-6 levels which lead to autoimmune damage, based on its immunomodulative capability.

There are no illustrations.