**Description**

**A COMPOSITION FOR PREVENTING AND TREATING OBESITY**

**Technical Field**

The invention relates to a composition, which contains glucopyranoside derivatives preventing and treating the obesity.

**State of the Art**

Today, obesity is a disease characterized by an increase in the natural energy reserves stored in the fat cell(s) of the human body to such an extent to cause serious risk and an inevitable increase in the mortality. The methods employed for treating the obesity include the drug therapy, exercise and diet. Examples of the drug therapy include thyroid hormone derivatives, lipolytic fragments of the growth hormone and the growth hormone, sympathomimetic agents (adrenaline derivatives), beta-2 receptor agonists, appetite suppressant agents, amphetamine derivatives, ecogenin derivatives (only in controlled clinics), industrial chemicals of DNP and its derivatives, dopamine receptor agonists.

Currently, the aerobic exercise derivatives and hybrid exercise programs are recommended as the exercise. As for the diet, low-calorie diets, fat-deficient diets or protein-rich diets and such other alternative ideas are suggested. Since the majority of the medications used for losing weight are sympathomimetic, the heart attacks and cardiac rhythms disorders are observed extremely frequently in the case of even a small extent of overdose. The long term use of such medications may lead to irreversible endocrinal imbalances, problems necessitating psychiatric therapy and drug addiction even in the controlled clinics. Although the exercise and diet are extremely effective methods of treating the obesity, the time and discipline they require are found intolerable by most patients and they generally fail to provide effective results.

Today, the invention no. WO03011880 relates to a glucopyrano siloxybenzyl benzene derivative, the use thereof for medical purpose and the use thereof in the manufacture. The formulation according to the invention is used for the conditions of hyperglycemia, diabetes types, diabetes complications and obesity.

As a result, the presence of the need for a composition for preventing and treating the obesity 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 prevent and treat obesity.

Another object of the invention is to suppress obesity**.**

Another object of the invention is to suppress the **Ppar gamma expression and suppress the adipocyte differentiation.**

Another object of the invention is to enable glucopyranoside to activate AMPK signal pathway and thus suppress **PPAR gamma expression.**

Another object of the invention is to prevent the formation of the fat cells and reduce the size of the already existing fat cells.

Another object of the invention is to trigger the circulation in the fat cells where the extent of blood circulation is low.

Another object of the invention is to trigger the release of the fatty acids and stimulate the shrinkage of the fat cells.

Still another object of the invention is to trigger the fat storage and cholesterol excretion and significantly reduce the level of total cholesterol.

Still another object of the invention is to prevent the atherosclerosis by way of increasing the level of nitric oxide owing to the triggered eNOS expression, and reduce the blood glucose levels.

Still another object of the invention is to provide effective treatment against the secondary symptoms caused by the obesity; the conditions such as cardiac rhythm disorders**, high cholesterol, high blood glucose, insulin resistance, hepatic and renal failure and atherosclerosis.**

In order to achieve the aforesaid advantages, the invention is a composition for preventing and treating the obesity, said composition being obtained by the components selected from the group comprising **(3β,12β)-17,20-Dihydroxydammar-24-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-16,20-Dihydroxydammar-21-en-4-yl 7-*O*-β-D-glucopyranosyl-β-D-glucopyranosyl** 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, which contains glucopyranoside derivatives preventing and treating the obesity.

**(3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, one of the ingredients of the invention, a glucopyranoside derivative naturally contained by the ginseng plant, effectively suppresses the obesity, suppresses Ppar gamma expression and suppresses adipocyte differentiation. (3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside also** activates AMPK signal pathway and thus suppresses **PPAR gamma expression,** prevents the formation of the fat cells and reduces the size of the already existing fat cells**.**

**(3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside triggers the circulation in the fat cells with low blood circulation, thus** triggers the release of the fatty acids and stimulates the shrinkage of the fat cells, triggers the fat storage and cholesterol excretion, significantly reduces the level of total cholesterol, prevents the atherosclerosis by way of increasing the level of nitric oxide owing to the triggered eNOS expression and reduces the blood glucose level. As a result, it provides effective treatment against the secondary symptoms caused by the obesity (the conditions such as cardiac rhythm disorders**, high cholesterol, high blood glucose, insulin resistance, hepatic and renal failure and atherosclerosis).**

The composition according to the invention contains **(3β,12β)-17,20-Dihydroxydammar-24-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-16,20-Dihydroxydammar-21-en-4-yl 7-*O*-β-D-glucopyranosyl-β-D-glucopyranosyl**.

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

**20-40% (3β,12β)-17,20-Dihydroxydammar-24-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside**

**15-50% (3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside**

**65-10% (3β,12β)-16,20-Dihydroxydammar-21-en-4-yl 7-*O*-β-D-glucopyranosyl-β-D-glucopyranosyl.**

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 the prevention and treatment of the obesity and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for preventing and treating the obesity, said composition being obtained by the components selected from the group comprising **(3β,12β)-17,20-Dihydroxydammar-24-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-16,20-Dihydroxydammar-21-en-4-yl 7-*O*-β-D-glucopyranosyl-β-D-glucopyranosyl** that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises **20-40% by weight (3β,12β)-17,20-Dihydroxydammar-24-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside**.
3. A composition according to Claim 1 characterized in that it comprises **15-50% by weight (3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside**.
4. A composition according to Claim 1 characterized in that it comprises **65-10% by weight (3β,12β)-16,20-Dihydroxydammar-21-en-4-yl 7-*O*-β-D-glucopyranosyl-β-D-glucopyranosyl**.
5. Use of the components according to Claims 1 to 4 obtained individually or in combinations from the group consisting of **(3β,12β)-17,20-Dihydroxydammar-24-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-12,20-Dihydroxydammar-21-en-4-yl 3-*O*-β-D-glucopyranosyl-β-D-glucopyranoside, (3β,12β)-16,20-Dihydroxydammar-21-en-4-yl 7-*O*-β-D-glucopyranosyl-β-D-glucopyranosyl** for the manufacture of a composition for the prevention and treatment of obesity.

**ABSTRACT**

**A COMPOSITION FOR PREVENTING AND TREATING OBESITY**

The invention relates to a composition formed for preventing and treating the obesity.

No figure.