**Description**

**A COMPOSITION FOR TREATING THE MUSCLE WEAKNESS AND THE LOSS OF MUSCLE MASS FOLLOWING CHRONIC STROKE AND COMA**

**Technical Field**

The invention relates to a composition formed for treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma.

**State of the Art**

Atrophy means, in the word sense, the decrease in the size of any tissue or organ in the body. Muscular atrophy is the loss of volume or mass from the muscles.

In the current treatments for the loss of muscle, the daily intake of protein, carbohydrate, fat and vitamins is recommended. Sports, correct exercise and sufficient rest are also included among the recommendations.

The invention no. EP1397492B1 entitled "Modified and stabilized gdf propeptides and the uses thereof" discloses the modified and stabilized propeptides of the growth differentiation factor proteins such as GDF-8 and Bone Morphogenetic Protein-11. Also, the methods for the manufacture and use of modified propeptides in order to prevent or treat the human or animal diseases where an increase in the muscular tissue will be beneficial from the therapeutic point of view are disclosed. Such diseases include the muscular or neuromuscular disorders (such as amyotrophic lateral sclerosis, muscular dystrophy, muscular atrophy, congestive obstructive pulmonary disease, muscle loss syndrome, sarcopenia or cachexia), metabolic diseases or disorders (such as type 2 diabetes, non-insulin dependent diabetes mellitus, hyperglycemia or obesity), fatty tissue disorders (such as obesity) and degenerative bone diseases (such as osteoporosis).

Further, the invention no. EP1957061B1 entitled "Combination comprising at least one amino acid and a pkr inhibitor for use in the treatment of the muscle loss" provides the methods for the treatment of the muscle loss in an individual. In an embodiment, the invention comprises administering to an individual an effective amount of a branched chain amino acid (BCAA), BCAA precursor, BCAA metabolite, BCAA-enriched protein, protein processed for enriching the BCAA content or a combination of the same. The invention also provides the nutritional products for such administration, including the nutritional products able to be administered via oral route.

As a result, the presence of the need for a composition for treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma 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 treat the muscle weakness and the loss of muscle mass following the chronic stroke and coma.

Another object of the invention is to increase the protein synthesis in the muscular tissues.

Another object of the invention is to stimulate the hypertrophy in the muscle cells.

Another object of the invention is to increase the expression of igf-1 and MGF-1 (muscular growth factor/mechano growth factor).

Another object of the invention is to increase the expression of igf-1 mRNA in the muscular tissues and stimulate the production of the satellite cells.

Another object of the invention is to increase the muscle mass.

Still another object of the invention is to increase the expression of follistatin, suppress myostatin and stimulate the increase in the muscle mass.

Still another object of the invention is to increase the expression of follistatin, suppress myostatin gene and stimulate the increase in the muscle mass.

In order to achieve the aforesaid advantages, the invention is a composition for treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma, said composition being obtained by the components selected from the group comprising 11-dicyclopentaone, 98-E, alphamethyldioscin, 3,7-bis(2-hydroxyethyl)icaritin, ostole 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 for treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma. The composition according to the invention contains 11-dicyclopentaone, 98-E, alphamethyldioscin, 3,7-bis(2-hydroxyethyl)icaritin, ostole.

11-dicyclopentaone, an ingredient of the composition according to the invention, increases the protein synthesis in the muscular tissues. 11-dicyclopentaone also stimulates the hypertrophy in the muscle cells. 98-E, another ingredient of the composition, increases the expression of igf-1 and MGF-1 (muscular growth factor/mechano growth factor).

Alphamethyldioscin, another ingredient of the composition, increases the expression of igf-1 mRNA in the muscular tissues and stimulates the production of the satellite cells. Ostole, another ingredient of the composition, increases the muscle mass owing to its partial androgenic effect. Ostole also increases the expression of follistatin, suppresses myostatin and stimulates the increase of the muscle mass. 3,7-bis(2-hydroxyethyl)icaritin, another ingredient of the composition, increases the expression of follistatin, suppresses the myostatin gene and stimulates the increase of the muscle mass.

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

10-20% 11-discyclopentaone,

20-10% 98-E,

50-40% alphamethyldioscin,

10-15% 3,7-bis(2-hydroxyethyl)icaritin,

10-15% ostole.

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 treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma, said composition being obtained by the components selected from the group comprising 11-dicyclopentaone, 98-E, alphamethyldioscin, 3,7-bis(2-hydroxyethyl)icaritin, ostole that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 10-20% by weight 11-dicyclopentaone.
3. A composition according to Claim 1 characterized in that it comprises 20-10% by weight 98-E.
4. A composition according to Claim 1 characterized in that it comprises 50-40% by weight alphamethyldioscin.
5. A composition according to Claim 1 characterized in that it comprises 10-15% by weight 3,7-bis(2-hydroxyethyl)icaritin.
6. A composition according to Claim 1 characterized in that it comprises10-15% by weight ostole.
7. Use of the components according to Claims 1 to 6 obtained individually or in combinations from the group consisting of 11-dicyclopentaone, 98-E, alphamethyldioscin, 3,7-bis(2-hydroxyethyl)icaritin and ostole for the manufacture of a composition for treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma.

**ABSTRACT**

**A COMPOSITION FOR TREATING THE MUSCLE WEAKNESS AND THE LOSS OF MUSCLE MASS FOLLOWING CHRONIC STROKE AND COMA**

The invention relates to a composition formed for treating the muscle weakness and the loss of muscle mass following the chronic stroke and coma.

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