**Description**

**A COMPOSITION FOR THE TREATMENT OF AUTOIMMUNE DISEASES**

**Technical Field**

The invention relates to a composition formed for the use of 3,7-bis(2-hydrokxyethyl)icaritin and monolaurin derivatives in the treatment of autoimmune diseases.

**State of the Art**

Currently available antiviral therapies are the methods for temporarily suppressing the symptoms caused by virus rather than targeting the virus itself, by way of suppressing the enzymes that regulate the capability of the virus to self-replicate and synthesize DNA from RNA. These components fail to provide a permanent solution and become ineffective due to the tolerance developed by the virus to these agents in the medium term.

Today, most of the autoimmune diseases (especially ALS and MS) are known to be of viral infection origin. A corresponding effective therapy is required to both reduce the viral load and repair the neurological and myotropic damage caused by the disease.

Further, the invention no. EP1650221B1 entitled "Novel compounds" discloses CASB7439 polypeptides and polynucleotides, the immunogenic compositions comprising the same and the methods for the manufacture of these polypeptides via recombinant techniques. Moreover, the methods for the use of CASB7439 polypeptides and polynucleotides in the diagnosis and the vaccines for the prophylactic and therapeutic treatment of the cancers, especially the colorectal cancers, autoimmune diseases and the associated conditions are disclosed.

Further, the invention no. EP2056807B1 entitled "Treatment of inflammatory diseases" pertains generally to the field of inflammatory diseases of the peripheral nervous system. More particularly, the invention relates to the methods for the treatment of inflammatory diseases of the peripheral nervous system by way of modulation of sphingosine-1-phosphate receptor activity. In an embodiment, the invention provides a method comprising the administration of an effective amount of FTY720 to a subject for the treatment of a subject suffering from chronic inflammatory demyelinating polyneuropathy (CIDP) disease or other autoimmune neuropathies.

As a result, the presence of the need for a composition for the treatment of the autoimmune diseases 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 provide the ability to simultaneously suppress DNA polymerase, reverse transcriptase, ribonucleotide reductase enzymes.

Another object of the invention is to provide permanent destruction in the virus itself and reduce the viral load, owing to the ability of tissue-selective nitric oxide increase.

Another object of the invention is to cause destruction in the fat-based dual-layer structure of the viruses.

Another object of the invention is to provide a synergistic support boosting the effect of damage originating from the nitric oxide.

Another object of the invention is to suppress the pro-inflammatory cytokines such as nf-kappa-b, Immunoglobulin E, IL-4 and IL-6 and the signal factors and reduce the tnf-alpha expression.

Another object of the invention is to suppress the gene myostatin by increasing the expression of follistatin, and in this manner, provide effective muscular mass increase and muscle cell formation.

Another object of the invention is to increase the level of cAMP owing to the ability to suppress PDE4.

Still another object of the invention is to trigger the renewal of the nerve cell and neuromuscular junction by way of increasing the expression of both NGF (nerve growth factor) and PGE-1.

Still another object of the invention is to accelerate the renewal of the brain cells owing to the ability to increase cAMP.

In order to achieve the aforesaid advantages, the invention is a composition for the treatment of the autoimmune diseases, said composition being obtained by the components selected from the group comprising 3,7-bis(2-hydroxyethyl)icaritin, 1-monolaurinic acid and 1,3-monolaurinic acid 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 the use of 3,7-bis(2-hydrokxyethyl)icaritin and monolaurin derivatives in the treatment of autoimmune diseases.

3,7-bis(2-hydroxyethyl)icaritin, one of the ingredients of the invention, is an effective antiviral component. This component, capable of simultaneously suppressing DNA polymerase, reverse transcriptase and ribonucleotide reductase enzymes, also provides permanent destruction in the virus itself and reduces the viral load, owing to its ability of tissue-selective nitric oxide increase.

1,3-Monolaurinic acid, another ingredient of the invention, which is a lauric acid derivative, causes destruction in the fat-based dual-layer structure of the viruses and provides a synergistic support boosting the effect of nitric oxide-based damage provided by 3,7-bis(2-hydroxyethyl)icaritin.

Said 3,7-bis(2-hydroxyethyl)icaritin, the ingredient of the invention, suppresses the pro-inflammatory cytokines such as nf-kappa-b, Immunoglobulin E, IL-4 and IL-6 and the signal factors and reduces the tnf-alpha expression. It also suppresses the gene myostatin by increasing the expression of follistatin. In this manner, it provides effective muscular mass increase and muscle cell formation.

Also, 3,7-bis(2-hydroxyethyl)icaritin increases the level of cAMP owing to its ability to suppress PDE4. Said increase triggers the renewal of the nerve cell and neuromuscular junction by way of increasing the expression of both NGF (nerve growth factor) and PGE-1. 3,7-bis(2-hydroxyethyl)icaritin also accelerates the renewal of the brain cells owing to the ability to increase cAMP.

The composition according to the invention contains 3,7-bis(2-hydroxyethyl)icaritin, 1-monolaurinic acid and 1,3-monolaurinic acid.

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

5-57% 3,7-bis(2-hydroxyethyl)icaritin,

90-33% 1-monolaurinic acid,

5-10% 1,3-monolaurinic acid.

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 treatment of the autoimmune diseases and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for the treatment of the autoimmune diseases, said composition being obtained by the components selected from the group comprising 3,7-bis(2-hydroxyethyl)icaritin, 1-monolaurinic acid and 1,3-monolaurinic acid that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 5-57% by weight 3,7-bis(2-hydroxyethyl)icaritin.
3. A composition according to Claim 1 characterized in that it comprises 90-33% by weight 1-monolaurinic acid.
4. A composition according to Claim 1 characterized in that it comprises 5-10% by weight 1,3-monolaurinic acid.
5. Use of the components according to Claims 1 to 4 obtained individually or in combinations from the group consisting of 3,7-bis(2-hydroxyethyl)icaritin, 1-monolaurinic acid and 1,3-monolaurinic acid for the manufacture of a composition for the treatment of the autoimmune diseases.

**ABSTRACT**

**A COMPOSITION FOR THE TREATMENT OF AUTOIMMUNE DISEASES**

The invention relates to a composition formed for use in the treatment of autoimmune diseases.

No figure.