**Description**

**A COMPOSITION FOR INCREASING THE PRODUCTION AND EXPRESSION OF NERVE GROWTH FACTOR**

**Technical Field**

The invention relates to a composition formed for increasing the production and expression of nerve growth factor.

**State of the Art**

Growth factors are the natural substances with the ability to stimulate the cell growth, cell reproduction and cell differentiation. They generally have a protein or steroid hormone structure. The growth factors are important for the regulation of numerous cellular processes.

Growth factors usually act as intercellular signal molecules. For example, cytokines and hormones show their action by binding to the specific receptors on the surface of the target cell.

While cell differentiation and maturation are supported in general, such properties vary among different growth factors. For example, bone morphogenetic proteins stimulate the differentiation of the bone cells, while [fibroblast growth factor and vascular endothelial growth factor stimulate the blood vessel differentiation](http://tr.wikipedia.org/w/index.php?title=Fibroblast_b%C3%BCy%C3%BCme_fakt%C3%B6r%C3%BC&action=edit&redlink=1) ([angiogenesis](http://tr.wikipedia.org/wiki/Anjiyogenez)).

The nerve growth factor, NFG, is a protein formed by nerve cell target tissues (such as smooth muscle) and required for the development and activity of some neuron types such as the sympathic neurons and sense neurons.

According to the invention no. US19950554685 entitled "Stabilizing formulations for NGF", formulations are provided comprising NGF and acetate-containing buffer from pH 5 to 6 that provide enhanced stability of NGF for use in promoting nerve cell growth, repair, survival, differentiation, maturation or function.

The invention no. US19960748447 entitled "Methods and compositions for stimulating neurite growth" relates to methods and pharmaceutical compositions for stimulating the growth of neurites in nerve cells. The compositions comprise a neurotrophic amount of a compound and a [neurotrophic factor](http://europepmc.org/abstract/PAT/US5840736/?whatizit_url_gene_protein=http://www.uniprot.org/uniprot/?query=neurotrophic%20factor&sort=score), such as nerve growth factor ([NGF](http://europepmc.org/abstract/PAT/US5840736/?whatizit_url_gene_protein=http://www.uniprot.org/uniprot/?query=NGF&sort=score)). The methods comprise treating nerve cells with the above compositions or compositions comprising the compound without a [neurotrophic factor](http://europepmc.org/abstract/PAT/US5840736/?whatizit_url_gene_protein=http://www.uniprot.org/uniprot/?query=neurotrophic%20factor&sort=score). The methods of this invention can be used to promote repair of neuronal damage caused by disease or physical trauma.

As a result, the presence of the need for a composition for increasing the production and expression of nerve growth factor 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 expression of nerve growth factor, neurotrophin and BDNF.

Another object of the invention is to increase the expression of BDNF (brain-derived neurotrophic factor).

Another object of the invention is to optimize the sugar metabolism to speed up the nerve repair and renewal.

Another object of the invention is to enhance the presynaptic neurotransmission.

Another object of the invention is to increase the expression of NGF, neurotrophin and neurotrophin B3.

In order to achieve the aforesaid advantages, the invention is a composition for increasing the production and expression of nerve growth factor, said composition being obtained by the components selected from the group comprising gymnemic acid IV, 98-E and alphamethyldioscin 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 increasing the production and expression of nerve growth factor. The composition according to the invention contains gymnemic acid IV, 98-E and alphamethyldioscin.

Gymnemic acid IV, 98-E and alphamethyldioscin, ingredients of the composition according to the invention, increase the expression of nerve growth factor, neurotrophin and BDNF. Gymnemic acid IV also increases the expression of BDNF (brain-derived neurotrophic factor). Gymnemic acid IV also optimizes the sugar metabolism to speed up the nerve repair and renewal.

Alphamethyldioscin, another ingredient of the composition, enhances the presynaptic neurotransmission. 98-E increases the expression of NGF, neurotrophin and neurotrophin B3.

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

33-15 % gymnemic acid IV,

47-60% 98-E,

40-25% alphamethyldioscin.

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 increasing the production and expression of nerve growth factor and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for increasing the production and expression of nerve growth factor, said composition being obtained by the components selected from the group comprising gymnemic acid IV, 98-E and alphamethyldioscin that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 33-15% by weight gymnemic acid IV.
3. A composition according to Claim 1 characterized in that it comprises 47-60% by weight 98-E.
4. A composition according to Claim 1 characterized in that it comprises 40-25% by weight alphamethyldioscin.
5. Use of the components according to Claims 1 to 4 obtained individually or in combinations from the group consisting of gymnemic acid IV, 98-E and alphamethyldioscin for the manufacture of a composition for increasing the production and expression of nerve growth factor.

**ABSTRACT**

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