**Description**

**A COMPOSITION FOR THE TREATMENT OF OPTIC NERVE NEUROPATHY**

**Technical Field**

The invention relates to a composition formed for the treatment of the optic nerve neuropathy.

**State of the Art**

Neuropathy is a medical term describing the damage to the neurons. It affects the neurons of the peripheral nervous system, although the damage to the cranial nerves also is a neuropathy according to some references. Peripheral neuropathy is described as impairment in the structure or the function of the peripheral motor, sensory and autonomic neurons. These neuron types may be affected altogether, or they may be affected selectively.

### In the state of the art, according to the invention no. WO2001US51407 entitled "the use of tiagabine for treatment of diabetic neuropathy and migraine", (R)-N-[4,4-Bis(3-methyl-2-thienyl)-3-butenyl]nipecotic acid and the salts thereof are effective GABA uptake inhibitory compounds and exert pharmacological effects on pain associated with diabetic neuropathy and migraine.

Further, according to the invention no. EP1696958B1 with the classification "A61K 45/00" entitled “Agents for treatment of glaucomatous retinopathy and optic neuropathy”, agents that stimulate nuclear translocation of Nrf2 protein and the subsequent increases in gene products that detoxify and eliminate cytotoxic metabolites are provided in a method for treating glaucomatous retinopathy or optic neuropathy. The structurally diverse agents that act on the Nrf2/ARE pathway induce the expression of enzymes and proteins that possess chemically versatile cytoprotective properties and are a defense against toxic metabolites and xenobiotics. Agents include certain electrophiles and oxidants such as a Michael Addition acceptor, diphenol, thiocarbamate, quinone, 1,2-dithiole-3-thione, butylated hydroxyanisole, flavonoid, an isothiocyanate, 3,5-di-tert-butyl-4-hydroxytoluene, ethoxyquin, a coumarin, combinations thereof, or a pharmacologically active derivative or analog thereof.

Further, according to the invention no. EP1803468B1 entitled "Agents for treatment of glaucomatous retinopathy and optic neuropathy", agents that stimulate nuclear translocation of Nrf2 protein and the subsequent increases in gene products that detoxify and eliminate cytotoxic metabolites are provided in a method for treating glaucomatous retinopathy or optic neuropathy. The structurally diverse agents that act on the Nrf2/ARE pathway induce the expression of enzymes and proteins that possess chemically versatile cytoprotective properties and are a defense against toxic metabolites and xenobiotics. Agents include certain electrophiles and oxidants such as a Michael Addition acceptor, diphenol, thiocarbamate, quinone, 1,2-dithiole-3-thione, butylated hydroxyanisole, flavonoid, an isothiocyanate, 3,5-di-tert-butyl-4-hydroxytoluene, ethoxyquin, a coumarin, combinations thereof, or a pharmacologically active derivative or analog thereof.

As a result, the presence of the need for a composition for treating the optic nerve neuropathy 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 effective treatment owing to the side effect-free and effective analgesic and inflammation suppressing properties provided by simultaneous ability of the inhibition of cox-2 pge-2 and nf-kappaB and of the ability of the increase of cox-1 and pge-1.

In order to achieve the aforesaid advantages, the invention is a composition for the treatment of the optic nerve neuropathy, said composition being obtained by the components selected from the group comprising 3,7-bis(2-hydroxyethyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one, 3,5-bis(3-methoxyethyl)-6-0-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one 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 the treatment of the optic nerve neuropathy. Unlike the currently available anti-inflammatory drugs with serious side effects such the liver and kidney damage and gastric bleeding, the components of the composition according to the invention provide effective treatment owing to the side effect-free and effective analgesic and inflammation suppressing properties provided by simultaneous ability of the inhibition of cox-2 pge-2 and nf-kappaB and of the ability of the increase of cox-1 and pge-1.

The composition according to the invention contains 3,7-bis(2-hydroxyethyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one, 3,5-bis(3-methoxyethyl)-6-0-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one.

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

1-99% 3,7-bis(2-hydroxyethyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one,

99-1% 3,5-bis(3-methoxyethyl)-6-0-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one

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 optic nerve neuropathy and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for the treatment of the optic nerve neuropathy, said composition being obtained by the components selected from the group comprising 3,7-bis(2-hydroxyethyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one, 3,5-bis(3-methoxyethyl)-6-0-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 1-99% by weight 3,7-bis(2-hydroxyethyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one.
3. A composition according to Claim 1 characterized in that it comprises 99-1% by weight 3,5-bis(3-methoxyethyl)-6-0-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one.
4. Use of the components according to Claims 1 to 3 obtained individually or in combinations from the group consisting of 3,7-bis(2-hydroxyethyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one, 3,5-bis(3-methoxyethyl)-6-0-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one **for the manufacture of a composition for treating the optic nerve neuropathy.**

**ABSTRACT**

**A COMPOSITION FOR THE TREATMENT OF OPTIC NERVE NEUROPATHY**

The invention relates to a composition for the treatment of the optic nerve neuropathy. The composition according to the invention provide effective treatment owing to the side effect-free and effective analgesic and inflammation suppressing properties provided by simultaneous ability of the inhibition of cox-2 pge-2 and nf-kappaB and of the ability of the increase of cox-1 and pge-1.

No figure.