**Description**

**A COMPOSITION COMPRISING BIOFLAVONOL GLYCOSIDE DERIVATIVES THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING OSTEONECROSIS**

**Technical Field**

The invention relates to a composition comprising the bioflavonol glycoside derivatives formed for suppressing osteonecrosis.

**State of the Art**

The bone is constituted by the living cells that need the support of blood flow. The death of the bone cells, i.e. the condition of the breakdown/collapse of the bone cells, which results from the lack of the blood flow to the bone for any reason, is called osteonecrosis. Osteonecrosis causes the pain in the bone and the restriction in the joint movements. It develops in the end (epiphysial) region of the bone and causes degenerative arthritis in the respective joint. It occurs most commonly in the hip and knee joint; the shoulder, hand and foot joints are less affected. Osteonecrosis rarely develops also in the jaw. Bioflavonol is a substance generally obtained from the citrus plants and having the antioxidant and sedative effects.

According to the state of the art, the invention no. EP1732575B1 entitled “Strontium-containing compounds for use in the prevention or treatment of necrotic bone conditions” provides a method for the treatment and/or prophylaxis of an osteonecrotic bone disease in a mammal in need thereof, such as, e.g., idiopathic or secondary osteonecrosis, avascular bone necrosis, glucocorticoid induced bone ischemia/osteonecrosis, Legg-Calve-Perthes disease and femoral head necrosis, the method comprising administering an effective dose of a strontium-containing compound (a) to the mammal. A method for the treatment and/or prophylaxis of an osteonecrotic bone disease, such as, e.g., idiopathic or secondary osteonecrosis, avascular bone necrosis, glucocorticoid induced bone ischemia/osteonecrosis and femoral head necrosis, in a mammal who is to be or is treated with a therapeutic agent (b) known to or suspected of inducing apoptosis and/or necrosis of bone cells, the method comprising administering a strontium-containing compound (a) in combination with (b).

Further, the invention no. EP1365769B1 entitled “A drug for the treatment of osteonecrosis and for the management of patients at risk of developing osteonecrosis” relates to a bisphosphonate for the treatment of osteonecrosis and/or osteochondritis dissecans. The drug may further be used to prevent the onset of osteonecrosis and/or osteochondritis dissecans and any complications associated with both diseases.

As a result, the presence of the need for a composition for suppressing osteonecrosis 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 enable the suppression of intravascular thrombosis.

Another object of the invention is to enable the suppression of extravascular lipid accumulation.

Another object of the invention is to enable the triggering of the osteoblastic differentiation and proliferation of the mesenchymes.

In order to achieve the aforesaid advantages, the invention is a composition for suppressing osteonecrosis, said composition being obtained by the components selected from the group comprising 3,**7-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one,**  **3,5-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-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 comprising the bioflavonol glycoside derivatives formed for suppressing osteonecrosis. Said invention enables the suppression of intravascular thrombosis and the suppression of extravascular lipid accumulation, and enables the triggering of the osteoblastic differentiation and proliferation of mesenchymes.

The composition according to the invention contains **3,7-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one,** **3,5-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one**.

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

**1-99% 3,7-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one,**

**99-1% 3,5-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-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 suppressing osteonecrosis and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for suppressing osteonecrosis, said composition being obtained by the components selected from the group comprising 3,**7-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one,**  **3,5-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-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)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one**.
3. A composition according to Claim 1 characterized in that it comprises 99-1% by weight **3,5-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one**.
4. Use of the components according to any one of Claims 2-3 obtained individually or in combinations selected from the group consisting of 3,**7-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one,** **3,5-bis(2-hydroxyethyl)3,5,7-trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-yl)-4H-1-benzopyren-4-one** for the manufacture of a composition for suppressing osteonecrosis.

**ABSTRACT**

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The invention relates to a composition comprising the bioflavonol glycoside derivatives formed for suppressing osteonecrosis.

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