**Description**

**A COMPOSITION COMPRISING SORININ DERIVATIVES THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING H3K27 METHYLATION**

**Technical Field**

The invention relates to a composition comprising sorinin derivatives formed for suppressing H3K27 methylation.

**State of the Art**

Histones are the basic proteins rich in lysine and arginine, which are available in the nuclei of the eukaryotic cells and which enable DNA to be packed in the form of nucleosomes. H3K9 and H3K27 histones are generally associated with inactivation. (22) The methylation of the histones occurs both in active and inactive chromatin regions. Methylation of the 9th lysine in the amino terminus of histone H3 (H3-9K) leads to DNA silencing and spreads to the heterochromatic regions. On the other hand, the methylation of the 4th lysine of histone H3 protein (H3-4K) is associated with activation and is available mainly in the promoter regions of the active genes. During spermatogenesis, the methylation of the tails of the histones is performed by H3-K4 and H3-K9 methyltransferase.

According to the state of the art, in the invention no. EP1869185B1 with classification "C12N 15/62" entitled "Conjugate comprising P21 protein for the treatment of cancer", the P21 protein is used as a medicament in the treatment of cancer. A conjugate comprises a first region comprising the P21 protein, or a homologue or functional fragment thereof; and a second region comprising a translocation factor.

Further, the invention no. EP1539796B1 entitled "Anti-inflammatory or anti-allergic androstane complexes" provides a crystalline chemical complex comprising a compound of formula (I) in which the crystal lattice is stabilized by the presence of a guest molecule, characterized in that the crystalline complex is of space group P212121 having unit cell dimensions of about 7.6 ± 0.6 Å, 12.7 ± 0.7 Å, and 33 ± 3 Å when determined at 120K.

Further, the invention no. TR 1998/02649 entitled "Bonding pairs for the inhibitors of the cycline-dependent kinases" relates to a protein that inhibits cellular protein p27 and thus eliminates the inhibition of p27-inducible cell proliferation, the mutants of the same with partially dominant effective characters, the nucleic acids suitable for the same and the use of the protein and the nucleic acids for the prevention and treatment of the diseases. The invention also discloses the nucleic acid constructs containing the nucleic acids for the gene therapy of the diseases.

As a result, the presence of the need for a composition for suppressing H3K27 methylation 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 H3K27 methylation.

Another object of the invention is to enable an increase in the p21 expression.

Another object of the invention is to enable an increase in the p27 expression.

Another object of the invention is to enable an increase in the FBX032 expression.

In order to achieve the aforesaid advantages, the invention is a composition for suppressing H3K27 methylation, said composition being obtained by the components selected from the group comprising 3,​4-​dimethyl-​α-​[2-​(methylfluoro)ethyl]-​sorinin, 3,7-hydroxymethyl--​α-​[2-​(methylfluoro)ethyl]-​sorinin 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 sorinin derivatives formed for suppressing H3K27 methylation. Said invention enables the suppression of H3K27 methylation, enables an increase in the p21 expression, enables an increase in the p27 expression, and enables an increase in the FBX032 expression.

The composition according to the invention contains 3,​4-​dimethyl-​α-​[2-​(methylfluoro)ethyl]-​sorinin, 3,7-hydroxymethyl--​α-​[2-​(methylfluoro)ethyl]-​sorinin.

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

1-99% 3,​4-​dimethyl-​α-​[2-​(methylfluoro)ethyl]-​sorinin,

99-1% 3,7-hydroxymethyl--​α-​[2-​(methylfluoro)ethyl]-​sorinin.

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 H3K27 methylation and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for suppressing H3K27 methylation, said composition being obtained by the components selected from the group comprising 3,​4-​dimethyl-​α-​[2-​(methylfluoro)ethyl]-​sorinin, 3,7-hydroxymethyl--​α-​[2-​(methylfluoro)ethyl]-​sorinin that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 1-99% by weight 3,​4-​dimethyl-​α-​[2-​(methylfluoro)ethyl]-​sorinin.
3. A composition according to Claim 1 characterized in that it comprises 99-1% by weight 3,7-hydroxymethyl--​α-​[2-​(methylfluoro)ethyl]-​sorinin.
4. Use of the components according to Claims 1 to 3 obtained individually or in combinations selected from the group consisting of 3,​4-​dimethyl-​α-​[2-​(methylfluoro)ethyl]-​sorinin, 3,7-hydroxymethyl--​α-​[2-​(methylfluoro)ethyl]-​sorinin for the manufacture of a composition for suppressing H3K27 methylation.

**ABSTRACT**

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