**Description**

**A COMPOSITION COMPRISING ANTI-CARCINOGENIC GIPENOLIN DERIVATIVES THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING FOCAL ADHESION KINASE-1**

**Technical Field**

The invention relates to a composition comprising anti-carcinogenic gipenolin derivatives formed for suppressing focal adhesion kinase-1.

**State of the Art**

The integrin receptors comprised by the alpha and beta chains bind via their outer ends to ECM proteins and via their inner ends to the cytoplasm proteins. The large protein assembly formed in this way is referred to as focal adhesion, which connects the cells with each other. In chemistry and biochemistry, kinase is an enzyme type that transfers the phosphate groups from the donor molecules with high energy, such as ATP, to specific substrates by way of phosphorylation. Kinases are a part of a larger family called the phosphotransferases. Kinases should not be confused with phosphorylases that carry out the phosphorolysis, which is the breakdown of a bond using an inorganic phosphate group, or with phosphatases that remove the phosphate groups.

According to the state of the art, the invention no. EP1933871B1 with classification "A61K 39/395" entitled "Human monoclonal antibodies to activin receptor-like kinase-1” relates to human monoclonal antibodies and antigen-binding portions thereof that bind to the extracellular domain (ECD) of activin receptor-like kinase-1 (ALK-1) and that serve to eliminate the ALK-1/TGF-beta-1/Smad1 signaling pathway. The invention also relates to heavy- and light-chain immunoglobulins derived from human anti-ALK-1 antibodies and the nucleic acid molecules encoding these immunoglobulins. The invention also relates to the methods of making human anti-ALK-1 antibodies, compositions comprising these antibodies and methods of using the antibodies and compositions. The invention also relates to the transgenic animals or plants comprising the nucleic acid molecules according to the invention.

Further, the invention no. EP1373249B1 entitled "Imidazolidine derivatives, their preparation and their use as anti-inflammatory agent" relates to novel imidazolidine derivatives of formula (I), in which A, E, Z, R1, R2, R3, R4 and R5 have the meanings indicated in the claims. The compounds of formula (I) are valuable pharmaceutical active compounds which are suitable, for example, for the treatment of inflammatory diseases, for example of rheumatoid arthritis, or of allergic diseases. The compounds of the formula (I) are inhibitors of the adhesion and migration of leukocytes and/or antagonists of the adhesion receptor VLA-4 belonging to the integrins group. They are generally suitable for the treatment of diseases which are caused by an undesired extent of leukocyte adhesion and or leukocyte migration or are associated therewith or in which cell-cell or cell-matrix interactions which are based on the interactions of VLA-4 receptors with their ligands play a role. The invention furthermore relates to processes for the preparation of the compounds of formula (I), their use and pharmaceutical preparations which contain compounds of formula (I).

Further, the invention no. EP1713459B1 entitled "Use of sphingosine-1-phosphate (s1p) receptor agonists for the treatment of brain degenerative diseases" relates to a new use for a sphingosine-1-phosphate (s1p) receptor agonist FTY720 in the treatment of progressive dementia or brain degenerative diseases, selected from the group consisting of Pick's disease or cerebral atherosclerosis.

As a result, the presence of the need for a composition for suppressing focal adhesion kinase-1 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 FAK1 autophosphorylation.

Another object of the invention is to enable the suppression of sphingosine kinase-1.

Another object of the invention is to enable the suppression of sphingosine kinase-2.

In order to achieve the aforesaid advantages, the invention is a composition for suppressing focal adhesion kinase-1, said composition being obtained by the components selected from the group comprising (4Z)-​N-​(2-​aminophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-​gipenolin, (3Z)-​N-​(2-​fluorophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-gipenolin 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 anti-carcinogenic gipenolin derivatives formed for suppressing focal adhesion kinase-1. Said invention enables the suppression of FAK1 autophosphorylation, the suppression of sphingosine kinase-1 and the suppression of sphingosine kinase-2.

The composition according to the invention contains (4Z)-​N-​(2-​aminophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-​gipenolin, (3Z)-​N-​(2-​fluorophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-gipenolin.

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

1-99% (4Z)-​N-​(2-​aminophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-​gipenolin,

99-1% (3Z)-​N-​(2-​fluorophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-gipenolin.

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 focal adhesion kinase-1 and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for suppressing focal adhesion kinase-1, said composition being obtained by the components selected from the group comprising (4Z)-​N-​(2-​aminophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-​gipenolin, (3Z)-​N-​(2-​fluorophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-gipenolin that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 1-99% by weight (4Z)-​N-​(2-​aminophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-​gipenolin.
3. A composition according to Claim 1 characterized in that it comprises 99-1% by weight (3Z)-​N-​(2-​fluorophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-gipenolin.
4. Use of the components according to Claims 1 to 3 obtained individually or in combinations selected from the group consisting of (4Z)-​N-​(2-​aminophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-​gipenolin, (3Z)-​N-​(2-​fluorophenyl)-​3-​[[3,​5-​dimethyl-​4-​[(4-​methyl-​1-​pyranosyl)carbonyl]-​2H-​dicoumaroyl]methylene]-​2,​3-​dihydro-​N-​methyl-​4-​oxo-​2H-gipenolin for the manufacture of a composition for suppressing focal adhesion kinase-1.

**ABSTRACT**

**A COMPOSITION COMPRISING ANTI-CARCINOGENIC GIPENOLIN DERIVATIVES THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING FOCAL ADHESION KINASE-1**

The invention relates to a composition comprising anti-carcinogenic gipenolin derivatives formed for suppressing focal adhesion kinase-1.

No figure.