**Description**

**A COMPOSITION COMPRISING SİMPLORASEMOSİT ANALOGUES THAT EXHIBIT ANTI-VIRAL ACTION WITH THE CHARACTERISTIC OF SUPPRESSING RNA HELICASE**

**Technical Field**

The invention relates to a composition comprising simplorasemosit analogues that exhibit anti-viral action formed for suppressing RNA helicase.

**State of the Art**

Helicases comprise an enzyme class that is of vital importance for all the living beings. They act on the phosphodiester backbone of the nucleic acids to separate the nucleic acid strands (of DNA, RNA or RNA-DNA hybrids) that are connected to each other via hydrogen bonds. For this purpose, they use the energy released from the hydrolysis of ATP. Hemagglutinin is a glycoprotein present in the envelope of the influenza virus. It enables the virus to adhere to the cell. The influenza vaccines were developed against these molecules. The viruses carrying only the h1, h2, h3 types of the hemagglutinin antigen are known to cause the influenza disease and secretions in human. Esterase is a hydrolase type enzyme that enables the esters to undergo chemical reaction with one water molecule to produce one acid and one alcohol molecule from these. There are different esterase types with various substrate specificities, protein structures and biological functions.

According to the invention no. EP1349457B1 entitled "Liquid antimicrobial compositions", a liquid antimicrobial composition comprises a mixture of iodide anions and thiocyanate anions; periodic acid or an alkali metal salt thereof; and optionally, a peroxidase. The composition may be used as a microbicide, disinfectant or for suppressing or killing viruses or spores.

Further, the invention no. EP1274713B1 entitled "Anti-viral pyrimidine nucleoside analogues" pertains to a compound having the formula (I) wherein Ar is an, optionally substituted, aromatic ring system, the aromatic ring system comprising one six-membered aromatic ring or two fused six-membered aromatic rings; R8 and R9 are each selected from hydrogen, alkyl, cycloalkyl, halogens, amino, alkylamino, nitro, cyano, alkyloxy, aryloxy, thiol, alkylthiol, arylthiol and aryl; Q is selected from O, S and CY2; X is selected from O, NH, S, N-alkyl, (CH2)m and CY2; Z is selected from O, NH, S, N-alkyl; U'' is H and U' is selected from H and CH2T, or U' and U'' are joined so as to form a ring moiety including Q selected from (a) and (b); wherein the other variables are as described the specification, with the proviso that when T is OAc and T' and T'' are present and are H, Ar is not 4-(2-benzoxazolyl)phenyl. These compounds exhibit anti-viral activity against the varicella zoster virus for instance.

As a result, the presence of the need for a composition for suppressing RNA helicase 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 suppress RNA helicase.

Another object of the invention is to suppress DNA gyrase.

Another object of the invention is to provide hemagglutinin esterase.

In order to achieve the aforesaid advantages, the invention is a composition for suppressing RNA helicase, said composition being obtained by the components selected from the group comprising 2-​deoxy-​2-​[(7-​nitro-​2,​2,​4-​benzoxadiazol-​5-yl)amine]-​D-simplorasemosit, 2,2-deoxy-​3-​[(7-​nitro-​2,​1,​3-​methoxypropionyl-​2-yl)amine]-​8-simplorasemosit, 4-​[4-​[(4'-amino[1,​1'-​biphenyl]-​2-yl)methyl]-​1-​piperazinyl]-​N-​[[4-​[[(1R)-​3-​(dimethylamine)-​1-​[(phenylthio)ethyl]laroyl]amine]-​3-​nitrophenyl]sulfonyl-simplorasemosit-ethyl ester 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 simplorasemosit analogues that exhibit anti-viral action formed for suppressing RNA helicase. Said composition enables the suppression of RNA helicase and of DNA gyrase and provides hemagglutinin esterase.

The composition according to the invention contains 2-​deoxy-​2-​[(7-​nitro-​2,​2,​4-​benzoxadiazol-​5-yl)amine]-​D-simplorasemosit, 2,2-​deoxy-​3-​[(7-​nitro-​2,​1,​3-​methoxypropionyl-​2-​yl)amine]-​8-simplorasemosit, 4-​[4-​[(4'-amino[1,​1'-​biphenyl]-​2-​yl)methyl]-​1-​piperazinyl]-​N-​[[4-​[[(1R)-​3-​(dimethylamine)-​1-​[(phenylthio)ethyl]laroyl]amine]-​3-​nitrophenyl]sulfonyl-simplorasemosit-ethyl ester.

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

12-26% 2-​deoxy-​2-​[(7-​nitro-​2,​2,​4-​benzoxadiazol-​5-yl)amine]-​D-simplorasemosit,

57-13% 2,2-deoxy-​3-​[(7-​nitro-​2,​1,​3-​methoxypropionyl-​2-​yl)amine]-​8-simplorasemosit,

31-61% 4-​[4-​[(4'-amino[1,​1'-​biphenyl]-​2-yl)methyl]-​1-​piperazinyl]-​N-​[[4-​[[(1R)-​3-​(dimethylamine)-​1-​[(phenylthio)ethyl]laroyl]amine]-​3-​nitrophenyl]sulfonyl-simplorasemosit-ethyl ester.

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 RNA helicase and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for suppressing RNA helicase, said composition being obtained by the components selected from the group comprising 2-​deoxy-​2-​[(7-​nitro-​2,​2,​4-​benzoxadiazol-​5-yl)amine]-​D-simplorasemosit, 2,2-deoxy-​3-​[(7-​nitro-​2,​1,​3-​methoxypropionyl-​2-yl)amine]-​8-simplorasemosit, 4-​[4-​[(4'-amino[1,​1'-​biphenyl]-​2-​yl)methyl]-​1-​piperazinyl]-​N-​[[4-​[[(1R)-​3-​(dimethylamine)-​1-​[(phenylthio)ethyl]laroyl]amine]-​3-​nitrophenyl]sulfonyl-simplorasemosit-ethyl ester that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 12-26% by weight 2-​deoxy-​2-​[(7-​nitro-​2,​2,​4-​benzoxadiazol-​5-yl)amine]-​D-simplorasemosit.
3. A composition according to Claim 1 characterized in that it comprises 57-13% by weight 2,2-deoxy-​3-​[(7-​nitro-​2,​1,​3-​methoxypropionyl-​2-​yl)amine]-​8-simplorasemosit.
4. A composition according to Claim 1 characterized in that it comprises 31-61% by weight 4-​[4-​[(4'-amino[1,​1'-​biphenyl]-​2-yl)methyl]-​1-​piperazinyl]-​N-​[[4-​[[(1R)-​3-​(dimethylamine)-​1-​[(phenylthio)ethyl]laroyl]amine]-​3-​nitrophenyl]sulfonyl-simplorasemosit-ethyl ester.
5. Use of the components according to Claims 1 to 4 obtained individually or in combinations selected from the group consisting of 2-​deoxy-​2-​[(7-​nitro-​2,​2,​4-​benzoxadiazol-​5-yl)amine]-​D-simplorasemosit, 2,2-​deoxy-​3-​[(7-​nitro-​2,​1,​3-​methoxypropionyl-​2-yl)amine]-​8-simplorasemosit, 4-​[4-​[(4'-amino[1,​1'-​biphenyl]-​2-yl)methyl]-​1-​piperazinyl]-​N-​[[4-​[[(1R)-​3-​(dimethylamine)-​1-​[(phenylthio)ethyl]laroyl]amine]-​3-​nitrophenyl]sulfonyl-simplorasemosit-ethyl ester for the manufacture of a composition for suppressing RNA helicase.

**ABSTRACT**

**A COMPOSITION COMPRISING SİMPLORASEMOSİT ANALOGUES THAT EXHIBIT ANTI-VIRAL ACTION WITH THE CHARACTERISTIC OF SUPPRESSING RNA HELICASE**

The invention relates to a composition comprising simplorasemosit analogues that exhibit anti-viral action formed for suppressing RNA helicase.

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