**Description**

**A COMPOSITION COMPRISING THE ANTI-VIRAL COMPONENTS FORMED FOR SUPPRESSING DNA POLYMERASE**

**Technical Field**

The invention relates to a composition comprising the anti-viral components formed for suppressing the DNA polymerase.

**State of the Art**

DNA polymerase is an enzyme that enables the duplication of DNA. These enzymes use a DNA strand as a template, which they read and along which they catalyze the polymerization of deoxyribonucleotides. Newly polymerized molecule is complementary for the template strand and has the same structure as the previous companion of the template strand. DNA polymerase is regarded as a holoenzyme, because it requires the magnesium ion in order to perform the correct function. In the absence of the magnesium ion, it is referred to as the apoenzyme.

DNA polymerase binds to a single-stranded DNA to initiate the duplication of DNA. Unlike RNA polymerase, DNA polymerase cannot extend the new strand it has synthesized beginning from only the nucleotides, but it may extend an existing DNA chain. Therefore, it needs the auxiliary enzymes for the initiation of the chain synthesis. Some types of DNA polymerases have an exonuclease feature that enables them to recognize the nucleotides that they have added erroneously and to repair these.

According to the state of the art, the invention no. WO 1999/009031 entitled "Nucleoside analogues, such as antivirals including inhibitors of retroviral reverse transcriptase and the DNA polymerase of hepatitis B virus (HBV)" with classification "C07D 473/00" relates to a compound of the formula I and pharmaceutically acceptable salts thereof, wherein nuc is the residue of a nucleoside analogue bonded through its single hydroxy group on the cyclic or acyclic saccharide moiety; R1 is selected from hydroxy, amino or carboxy optionally having esterified/amide bonded thereon, a C4-C22 saturated or unsaturated, optionally substituted fatty acid or alcohol, or an aliphatic L-amino acid; R2 is the residue of an aliphatic L-amino acid; L1 is a trifunctional linker group; L2 is absent or a difunctional linker group.

Further, the invention no. EP1234024B1 entitled “Artificial chromosome constructs containing nucleic acid sequences capable of directing the formation of a recombinant RNA-virus" relates to methods of preparing a DNA comprising steps wherein (a) a DNA comprising a full length copy of the genomic RNA (gRNA) or a RNA virus; or (b) a DNA comprising one or several fragments of a gRNA or an RNA virus, which fragments code for a RNA dependent RNA polymerase and at least one structural or non-structural protein; or (c) a DNA having a homology of at least 60% to the sequences of (a) or (b) is cloned into a bacterial artificial chromosome (BAC).

Further, the invention no. TR2001/01093 entitled "Performing the reverse transcription at elevated temperature by the use of the mutant DNA polymerases” relates to the improved reverse transcription methods particularly in a magnesium ion buffer, by the use of modified thermostable DNA polymerases. These methods are useful especially for the combined reverse transcription/amplification reactions.

As a result, the presence of the need for a composition comprising the anti-viral components formed for suppressing the DNA polymerase 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 the DNA polymerase.

Another object of the invention is to enable the suppression of the reverse transcriptase.

In order to achieve the aforesaid advantages, the invention is a composition for suppressing the DNA polymerase, said composition being obtained by the components selected from the group comprising 2,​3,​9,​10,​11,​12-​hexahydro-​8R-​methoxy-​2,​4-​dimethyl-​1-​oxo-​9S,​12R-​epoxy-​2H-​diindol[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]benzodiazokin-​4-carboxylic acid​ methyl ester, 2,​3,​9,​10,​11,​12-​hexahydro-​10R-​methoxy-​3,​3-​trimethyl-​7-​oxo-​9S,​12R-​epoxy-​4H-​tetrafluoro[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]octadien-​8-carboxylic acid phenyl 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 the anti-viral components formed for suppressing the DNA polymerase. The composition according to the invention enables the suppression of the DNA polymerase and the suppression of the reverse transcriptase.

The composition according to the invention contains 2,​3,​9,​10,​11,​12-​hexahydro-​8R-​methoxy-​2,​4-​dimethyl-​1-​oxo-​9S,​12R-​epoxy-​2H-​diindol[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]benzodiazokin-​4-carboxylic acid​ methyl ester, 2,​3,​9,​10,​11,​12-​hexahydro-​10R-​methoxy-​3,​3-​trimethyl-​7-​oxo-​9S,​12R-​epoxy-​4H-​tetrafluoro[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]octadien-​8-​carboxylic acid phenyl ester.

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

1-99% 2,​3,​9,​10,​11,​12-​hexahydro-​8R-​methoxy-​2,​4-​dimethyl-​1-​oxo-​9S,​12R-​epoxy-​2H-​diindol[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]benzodiazokin-​4-​carboxylic acid​ methyl ester

and
99-1% 2,​3,​9,​10,​11,​12-​hexahydro-​10R-​methoxy-​3,​3-​trimethyl-​7-​oxo-​9S,​12R-​epoxy-​4H-​tetrafluoro[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]octadien-​8-​carboxylic acid phenyl 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 the DNA polymerase and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for suppressing the DNA polymerase, said composition being obtained by the components selected from the group comprising 2,​3,​9,​10,​11,​12-​hexahydro-​8R-​methoxy-​2,​4-​dimethyl-​1-​oxo-​9S,​12R-​epoxy-​2H-​diindol[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]benzodiazokin-​4-carboxylic acid​ methyl ester, 2,​3,​9,​10,​11,​12-​hexahydro-​10R-​methoxy-​3,​3-​trimethyl-​7-​oxo-​9S,​12R-​epoxy-​4H-​tetrafluoro[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]octadien-​8-carboxylic acid phenyl ester that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 1-99% by weight 2,​3,​9,​10,​11,​12-​hexahydro-​8R-​methoxy-​2,​4-​dimethyl-​1-​oxo-​9S,​12R-​epoxy-​2H-​diindol[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]benzodiazokin-​4-​carboxylic acid methyl ester.
3. A composition according to Claim 1 characterized in that it comprises 99-1% by weight 2,​3,​9,​10,​11,​12-​hexahydro-​10R-​methoxy-​3,​3-​trimethyl-​7-​oxo-​9S,​12R-​epoxy-​4H-​tetrafluoro[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]octadien-​8-​carboxylic acid phenyl ester.
4. Use of the components according to Claims 1 to 3 obtained individually or in combinations selected from the group consisting of 2,​3,​9,​10,​11,​12-​hexahydro-​8R-​methoxy-​2,​4-​dimethyl-​1-​oxo-​9S,​12R-​epoxy-​2H-​diindol[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]benzodiazokin-​4-​carboxylic acid​ methyl ester, 2,​3,​9,​10,​11,​12-​hexahydro-​10R-​methoxy-​3,​3-​trimethyl-​7-​oxo-​9S,​12R-​epoxy-​4H-​tetrafluoro[1,​2,​3-​fg:3’,​2’,​1’-​kl]pyrrolo[3,​4-​i][1,​6]octadien-​8-​carboxylic acid phenyl ester for the manufacture of a composition for suppressing the DNA polymerase.

**ABSTRACT**

**A COMPOSITION COMPRISING THE ANTI-VIRAL COMPONENTS FORMED FOR SUPPRESSING DNA POLYMERASE**

The invention relates to a composition comprising the anti-viral components formed for suppressing the DNA polymerase.

No figure.