**Description**

**A COMPOSITION COMPRISING NOVEL SYNTHETIC ANTI-BACTERIAL COMPONENTS THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING PEPTIDOGLYCAN HYDROLASE**

**Technical Field**

The invention relates to a composition formed for suppressing peptidoglycan hydrolase.

**State of the Art**

Peptidoglycan is comprised by N-acetylmuramic acid and N-acetyl glucose amine sugar molecules and a small number of L-alanine, D-alanine, D-glutamic acid, lysine or diaminopimelic acid. The glycan chains, which are formed by cross-linking of peptidoglycan layer sugar, available only in prokaryotes, with amino acids via glucosic bond (covalent bond), are formed by the binding of the tetrapeptide, consisting of the amino acids, via cross links. It contains peptide bonds. It combines with fats to form carbohydrates.

According to the state of the art, the invention no. WO 2000/015750 with classification "C11D 3/48" entitled " Sanitizing compositions and methods" relates to a hydrophobic bleaching agent comprising a peroxyacid having a carbon chain of at least 9 carbon atoms used for the reduction of the activity of micro-organisms which have a cell wall containing high levels of peptidoglycan. These include yeast and in particular gram positive bacteria.

Further, the invention no. EP1720999B1 entitled "Methods for detection of microbial contaminants in peritoneal dialysis solutions" provides methods and compositions for detection of microbial contaminants in peritoneal dialysis solutions. A novel cause of aseptic peritonitis is provided--aseptic peritonitis associated with gram positive microbial contamination of a dialysis solution. Peptidoglycan is a major component of a gram positive bacterial cell wall and thus can serve as a marker for gram positive bacteria. In this regard, testing for peptidoglycans can be utilized to effectively prevent peritonitis in patients that use the peritoneal dialysis solutions, such as peritoneal dialysis solutions that contain a glucose polymer including an icodextrin and the like.

As a result, the presence of the need for a composition for suppressing peptidoglycan hydrolase 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 peptidoglycan hydrolase.

Another object of the invention is to enable the suppression of RNA polymerase.

Another object of the invention is to enable the suppression of ribonucleotide reductase.

In order to achieve the aforesaid advantages, the invention is a composition for suppressing peptidoglycan hydrolase, said composition being obtained by the components selected from the group comprising (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​13S,​15R,​17S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrafluoro-​7,​11,​14,​15-​tetramethoxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-​yl]-​5',​6,​8,​10,​12,​14,​16,​28,​29-​pentamethyl-symplocomoside-ethyl-ester, (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​14S,​15R,​16S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrahydro-​7,​11,​14,​15-​tetrahydroxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-yl]-​5',​6,​8,​11,​12,​14,​18,​28,​29-​oxoethyl- symplocomoside-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 novel synthetic anti-bacterial components that exhibit the characteristic of suppressing peptidoglycan hydrolase. Said composition enables the suppression of peptidoglycan hydrolase, the suppression of RNA polymerase and the suppression of ribonucleotide reductase.

The composition according to the invention contains (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​13S,​15R,​17S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrafluoro-​7,​11,​14,​15-​tetramethoxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-​yl]-​5',​6,​8,​10,​12,​14,​16,​28,​29-​pentamethyl-symplocomoside-ethyl-ester, (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​14S,​15R,​16S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrahydro-​7,​11,​14,​15-​tetrahydroxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-yl]-​5',​6,​8,​11,​12,​14,​18,​28,​29-​oxoethyl- symplocomoside-ethyl-ester.

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

1-99% (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​13S,​15R,​17S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrafluoro-​7,​11,​14,​15-​tetramethoxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-​yl]-​5',​6,​8,​10,​12,​14,​16,​28,​29-​pentamethyl-symplocomoside-ethyl-ester,

99-1% (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​14S,​15R,​16S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrahydro-​7,​11,​14,​15-​tetrahydroxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-yl]-​5',​6,​8,​11,​12,​14,​18,​28,​29-​oxoethyl-symplocomoside-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 peptidoglycan hydrolase and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for suppressing peptidoglycan hydrolase, said composition being obtained by the components selected from the group comprising (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​13S,​15R,​17S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrafluoro-​7,​11,​14,​15-​tetramethoxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-​yl]-​5',​6,​8,​10,​12,​14,​16,​28,​29-​pentamethyl-symplocomoside-ethyl-ester, (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​14S,​15R,​16S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrahydro-​7,​11,​14,​15-​tetrahydroxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-yl]-​5',​6,​8,​11,​12,​14,​18,​28,​29-​oxoethyl-symplocomoside-ethyl-ester that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 1-99% by weight (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​13S,​15R,​17S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrafluoro-​7,​11,​14,​15-​tetramethoxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-​yl]-​5',​6,​8,​10,​12,​14,​16,​28,​29-​pentamethyl-symplocomoside-ethyl-ester.
3. A composition according to Claim 1 characterized in that it comprises 99-1% by weight (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​14S,​15R,​16S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrahydro-​7,​11,​14,​15-​tetrahydroxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-yl]-​5',​6,​8,​11,​12,​14,​18,​28,​29-​oxoethyl-symplocomoside-ethyl-ester.
4. Use of the components according to Claims 1 to 3 obtained individually or in combinations selected from the group consisting of (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​13S,​15R,​17S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrafluoro-​7,​11,​14,​15-​tetramethoxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-​yl]-​5',​6,​8,​10,​12,​14,​16,​28,​29-​pentamethyl-symplocomoside-ethyl-ester, (1S,​2'R,​4E,​5'R,​6R,​6'S,​7S,​8R,​10S,​11S,​12R,​14S,​15R,​16S,​18E,​20E,​22S,​25R,​28R,​29S)-​22-​ethyl-​3',​4',​5',​6'-​tetrahydro-​7,​11,​14,​15-​tetrahydroxy-​6'-​[(1Z)-​2-​hydroxy-​1-​propen-​1-yl]-​5',​6,​8,​11,​12,​14,​18,​28,​29-​oxoethyl-symplocomoside-ethyl-ester for the manufacture of a composition for suppressing peptidoglycan hydrolase.

**ABSTRACT**

**A COMPOSITION COMPRISING NOVEL SYNTHETIC ANTI-BACTERIAL COMPONENTS THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING PEPTIDOGLYCAN HYDROLASE**

The invention relates to a composition formed for suppressing peptidoglycan hydrolase.

No figure.