**Description**

**A COMPOSITION COMPRISING ANTI-BACTERIAL PSEUDO-PROTOBIOCIDE DERIVATIVES THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING CYTOCHROME C PEROXIDASE**

**Technical Field**

The invention relates to a composition comprising the anti-bacterial pseudo-protobiocide derivatives that exhibit the characteristic of suppressing cytochrome c peroxidase formed for suppressing cytochrome c peroxidase.

**State of the Art**

Cytochrome c oxidase or Complex IV [enzyme](http://tr.wikipedia.org/wiki/Enzim) is a large transmembrane protein found in mitochondria. It receives en electron from each of four cytochrome c molecules and transfers them to one oxygen molecule, converting molecular oxygen to two molecules of water. It is the terminal electron acceptor of the electron transport chain. Cytochrome oxidase enzyme is the enzyme that catalyzes the electron transport from redox dyes by giving electron. In the cytochrome oxidase test, which is one of the tests for identifying bacteria and microorganisms, tetramethylphenylenediamine is used as the reagent.

According to the state of the art, the invention no. EP1893187B1 with classification "A01N 63/00” entitled "Improved antimicrobial peroxidase compositions” relates to a pharmaceutical composition comprising a peroxide or a peroxide generating system, one or more peroxidase and one or more enhancing agent characterized in that one or more enhancing agent is a benzene molecule, said benzene molecule is substituted with various groups and the obtained composition is used as a medicament for the treatment of skin disorders and for wound healing.

As a result, the presence of the need for a composition for suppressing cytochrome c peroxidase 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 cytochrome c peroxidase.

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

Another object of the invention is to enable the suppression of DNA gyrase.

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-bacterial pseudo-protobiocide derivatives that exhibit the characteristic of suppressing cytochrome c peroxidase formed for suppressing cytochrome c peroxidase. Said composition enables the suppression of cytochrome c peroxidase, the suppression of DNA polymerase and the suppression of DNA gyrase.

The composition according to the invention contains (3S,​10R)-​1-​((S)-​1-​((6S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​diethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide,  (3S,​12R)-​1-​((S)-​1-​((6S,​12S,​15S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​fluoroamino-​2-​yl)-​15-​(3-​fluoro-​3-​ketopropyl)-​30-​chlorobutyl-​21-​isopropyl-​3,​3,​6,​6,​9,​12,​18,​18,​24,​24,​33,​33-​tetramethyl-​1,​4,​7,​10,​13,​16,​19,​22,​25,​28,​31-​decaoxo-pseudoprotobiocide, (4S,​10R)-​1-​((S)-​1-​((10S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(3-​acetamide-​3-​triethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide.

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

10-19% (3S,​10R)-​1-​((S)-​1-​((6S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​diethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide,

29-17% (3S,​12R)-​1-​((S)-​1-​((6S,​12S,​15S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​fluoroamino-​2-​yl)-​15-​(3-​fluoro-​3-​ketopropyl)-​30-​chlorobutyl-​21-​isopropyl-​3,​3,​6,​6,​9,​12,​18,​18,​24,​24,​33,​33-​tetramethyl-​1,​4,​7,​10,​13,​16,​19,​22,​25,​28,​31-​decaoxo-pseudoprotobiocide,

61-64% (4S,​10R)-​1-​((S)-​1-​((10S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(3-​acetamide-​3-​triethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide.

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 cytochrome c peroxidase and the manufacture thereof for this purpose.

**CLAIMS**

1. A composition for suppressing cytochrome c peroxidase, said composition being obtained by the components selected from the group comprising (3S,​10R)-​1-​((S)-​1-​((6S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​diethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide,  (3S,​12R)-​1-​((S)-​1-​((6S,​12S,​15S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​fluoroamino-​2-​yl)-​15-​(3-​fluoro-​3-​ketopropyl)-​30-​chlorobutyl-​21-​isopropyl-​3,​3,​6,​6,​9,​12,​18,​18,​24,​24,​33,​33-​tetramethyl-​1,​4,​7,​10,​13,​16,​19,​22,​25,​28,​31-​decaoxo-pseudoprotobiocide, (4S,​10R)-​1-​((S)-​1-​((10S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(3-​acetamide-​3-​triethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide that are used individually or in combinations.
2. A composition according to Claim 1 characterized in that it comprises 10-19% by weight (3S,​10R)-​1-​((S)-​1-​((6S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​diethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide.
3. A composition according to Claim 1 characterized in that it comprises 29-17% by weight (3S,​12R)-​1-​((S)-​1-​((6S,​12S,​15S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​fluoroamino-​2-​yl)-​15-​(3-​fluoro-​3-​ketopropyl)-​30-chlorobutyl-​21-​isopropyl-​3,​3,​6,​6,​9,​12,​18,​18,​24,​24,​33,​33-​tetramethyl-​1,​4,​7,​10,​13,​16,​19,​22,​25,​28,​31-​decaoxo-pseudoprotobiocide.
4. A composition according to Claim 1 characterized in that it comprises 61-64% by weight (4S,​10R)-​1-​((S)-​1-​((10S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(3-​acetamide-​3-​triethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide.
5. Use of the components according to Claims 1 to 4 obtained individually or in combinations selected from the group consisting of (3S,​10R)-​1-​((S)-​1-​((6S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​diethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide,  (3S,​12R)-​1-​((S)-​1-​((6S,​12S,​15S,​21S,​30S)-​1-​((R)-​1-​(2-​acetamide-​2-​fluoroamino-​2-​yl)-​15-​(3-​fluoro-​3-​ketopropyl)-​30-​chlorobutyl-​21-​isopropyl-​3,​3,​6,​6,​9,​12,​18,​18,​24,​24,​33,​33-​tetramethyl-​1,​4,​7,​10,​13,​16,​19,​22,​25,​28,​31-​decaoxo-pseudoprotobiocide, (4S,​10R)-​1-​((S)-​1-​((10S,​12S,​14S,​21S,​30S)-​1-​((R)-​1-​(3-​acetamide-​3-​triethylpropanoyl)pyrrolidin-​2-​yl)-​15-​(3-chloro-​3-​oxo(phenyl)-​30-​fluorobutyl-​21-​isomethyl-​3,​3,​6,,​9,​10,​16,​16,​24,​24,​33,​33-​decamethyl-​1,​4,​7,​10,​13,​16,​20,​22,​25,​28,​31-​oxophenyl-pseudo-protobiocide for the manufacture of a composition for suppressing cytochrome c peroxidase.

**ABSTRACT**

**A COMPOSITION COMPRISING ANTI-BACTERIAL PSEUDO-PROTOBIOCIDE DERIVATIVES THAT EXHIBIT THE CHARACTERISTIC OF SUPPRESSING CYTOCHROME C PEROXIDASE**

The invention relates to a composition comprising the anti-bacterial pseudo-protobiocide derivatives that exhibit the characteristic of suppressing cytochrome c peroxidase formed for suppressing cytochrome c peroxidase.

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