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Compositions and methods for treating mammals with modified alginates and modified pectins

A modified alginate and/or modified pectin composition for preventing and/or treating diseases and/or conditions caused by circulating agents such as poisonous heavy metals, environmental toxins, calcium and cholesterol, is provided. The composition includes a modified alginate having a molecular weight of no more than 40,000 daltons and/or a modified pectin having a molecular weight of no more than 40,000 daltons. The method involves orally or intravenously administering the modified alginate and/or modified pectin composition, alone or with excipients.

Claims

Claim #1

A method of treating or preventing poisoning in a mammal which is caused by circulation in the blood of said mammal of a poison selected from the group consisting of toxic metals, environmental toxins and mixtures thereof, comprising administering to a mammal in need of same an effective amount of modified alginate having a molecular weight of no more than 40,000 daltons, and obtained by hydrolysis or enzymatic degradation of alginic acid, in an amount to effectively bind said poison.

Claim #1 Dependents

The method of claim 1, wherein said poisoning is metal poisoning, and said poison is a poisonous heavy metal.

Claim #2 Dependents

The method of claim 2, wherein said heavy metal is selected from the group consisting of aluminum, antimony, beryllium, bismuth, mercury, platinum, thallium, thorium, tin, tungsten, uranium, lead, mercury, cadmium, arsenic, silver, nickel, radioactive metals and mixtures thereof.

Claim #3 Dependents

The method of claim 3, wherein administration of said modified alginate is accompanied by administration of modified pectin having a molecular weight of no more than 40,000 daltons obtained by hydrolysis or enzymatic degradation of pectin.

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The method of claim 1, wherein said modified alginate is administered orally or intravenously.

Claim #5 Dependents

The method of claim 5, wherein said modified alginate is administered orally in an amount of from 5-1,500 mg per kg body weight per day.

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The method of claim 5, wherein said modified alginate is administered intravenously in an amount of from 1-1,000 mg per kg body weight per day.

Claim #8

A method of treating or preventing poisoning in a mammal which is caused by circulation in the blood of said mammal of a poison selected from the group consisting of toxic metals, environmental toxins and mixtures thereof, comprising administering to a mammal in need of same an effective amount of modified pectin having a molecular weight of no more than 40,000 daltons, and obtained by hydrolysis or enzymatic degradation of pectin, in an amount to effectively bind said poison.

Claim #8 Dependents

The method of claim 8, wherein said poisoning is metal poisoning, and said poison is a poisonous heavy metal.

Claim #9 Dependents

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The method of claim 9, wherein said heavy metal is selected from the group consisting of aluminum, antimony, beryllium, bismuth, mercury, platinum, thallium, thorium, tin, tungsten, uranium, lead, mercury, cadmium, arsenic, silver, nickel, radioactive metals and mixtures thereof.

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The method of claim 8, wherein said modified pectin is administered orally or intravenously.

Claim #11 Dependents

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The method of claim 11, wherein said modified pectin is administered orally in an amount of from 5-1,500 mg per kg body weight per day.

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The method of claim 11, wherein said modified pectin is administered intravenously in an amount of from 1-1,000 mg per kg body weight per day.

Claim #14

A method of treating or preventing arteriosclerosis caused by circulation of calcium in the blood of a mammal, comprising administering to said mammal modified alginate having a molecular weight of no more than 40,000 daltons, and obtained by hydrolysis or enzymatic degradation of alginic acid, in an amount to effectively bind said calcium.

Claim #14 Dependents

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The method of claim 14, wherein said amount is 2-15 grams of modified alginate per day.

Claim #16

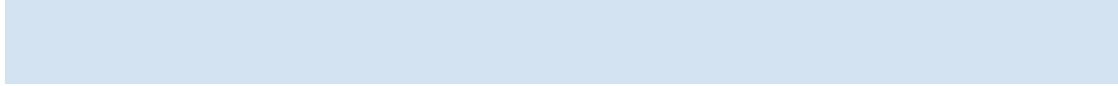
A method of treating or preventing arteriosclerosis caused by circulation of calcium in the blood of a mammal, comprising administering to said mammal modified pectin having a molecular weight of no

more than 40,000 daltons, and obtained by hydrolysis or enzymatic degradation of pectin, in an amount to effectively bind said calcium.

Claim #16 Dependents

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The method of claim 16, wherein said amount is 2-15 grams of modified pectin per day.



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Compositions and methods for treating mammals with modified alginates and modified pectins

Abstract

A modified alginate and/or modified pectin composition and method for preventing and/or treating diseases and/or conditions caused by circulating agents such as poisonous heavy metals, environmental toxins, calcium and cholesterol, is provided. The composition includes a modified alginate having a molecular weight of no more than 40,000 daltons and/or a modified pectin having a molecular weight of no more than 40,000 daltons. The method involves orally or intravenously administering the modified alginate and/or modified pectin composition, alone or with excipient.

Drawings

There are currently no drawings available.

Claims

Claim #1

A method of treating a condition or disease mediated by an agent selected from the group consisting of a poisonous metal, an environmental toxin and calcium circulating in the blood, the disease or condition being selected from the group consisting of blood poisoning, arteriosclerosis, atherosclerosis, calcinosis, dermatomytosis, obesity, hypercholesterolima, and diabetes, the method comprising administering to a mammal in need of same an effective amount of alginate comprised of a mixture of polymannuronic acid with galactic linkages at the 1e-4e-di-equatorial position and polyguluronic acid with glycosidic linkages at the 1a-4a-di-axial position having a molecular weight of no more than 40,000 daltons, in an amount to effectively bind said agent.

Claim #1 Dependents

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The method of claim 1, wherein said condition is metal poisoning, and said agent is a poisonous heavy metal.

Claim #2 Dependents

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The method of claim 2, wherein said heavy metal is selected from the group consisting of aluminum, antimony, beryllium, bismuth, mercury, platinum, thallium, thorium, tin, tungsten, uranium, lead, cadmium, arsenic, silver, nickel, radioactive metals and mixtures thereof.

Claim #3 Dependents

The method of claim 3, wherein administration of said alginate is accompanied by administration of pectin comprised of partially esterified polymers of galacturonic acid having a molecular weight of no more than 40,000 daltons.

The method of claim 1, wherein said alginate is administered orally or intravenously.