【CLAIMS】

【Claim 1】

A method of providing information for diagnosing one or more diseases ~~selected from the group consisting of hepatic cirrhosis, liver cancer, myocardial infarction, renal insufficiency, diabetes, brain tumors, mild cognitive impairment, dementia, depression, autism, and atopic dermatitis~~, ~~the method~~ comprising the following steps:

(a) extracting DNAs from vesicles isolated from blood or urine samples of a normal individual and a subject;

(b) performing polymerase chain reaction (PCR) on the extracted DNA using a pair of primers of SEQ ID NO: 1 and SEQ ID NO: 2 ~~prepared based on a gene sequence present in 16S rDNA~~ to obtain each PCR product; and

(c) determining a case in which a content of vesicles derived from ~~bacteria belonging to~~ the genus *Sphingomonas* is lower than that of the normal individual sample, as one or more diseases selected from the group consisting of hepatic cirrhosis, liver cancer, ~~myocardial infarction,~~ renal insufficiency, ~~diabetes,~~ brain tumors, ~~mild cognitive impairment, dementia,~~ and depression~~, autism, and atopic dermatitis~~, through quantitative analysis of the PCR product, and wherein the sample is blood, or.

determining a case in which a content of vesicles derived from the genus *Sphingomonas* is lower than that of the normal individual sample, as atopic dermatitis, through quantitative analysis of the PCR product, and wherein the sample is urine.

~~【Claim 2】~~

~~The method of claim 1, wherein the sample in Step (a) is blood or urine.~~

【Claim 2】 ~~【Claim 3】~~

Use of one or more vesicles selected from the group consisting of *Sphingomonas paucimobilis*-derived vesicles and *Sphingomonas koreensis*-derived vesicles in the manufacture of a composition for anti-inflammation.

~~A pharmaceutical composition for preventing or treating one or more diseases selected from the group consisting of hepatic cirrhosis, liver cancer, myocardial infarction, renal insufficiency, diabetes, brain tumors, mild cognitive impairment, dementia, depression, autism, and atopic dermatitis, comprising vesicles derived from bacteria belonging to the genus *Sphingomonas* as an active ingredient.~~

【Claim 3】 ~~【Claim 4】~~

The ~~pharmaceutical composition~~use of claim 3, wherein the vesicles have an average diameter of 10 to 200 nm.

【Claim 4】 ~~【Claim 5】~~

The use~~pharmaceutical composition~~ of claim 3, wherein the vesicles are secreted naturally or artificially from ~~bacteria belonging to the genus *Sphingomonas*~~. *Sphingomonas paucimobilis* or *Sphingomonas koreensis*.

~~【Claim 6】~~

~~The pharmaceutical composition of claim 3, wherein the vesicles derived from bacteria belonging to the genus *Sphingomonas* are secreted from *Sphingomonas paucimobilis*.~~

~~【Claim 7】~~

~~The pharmaceutical composition of claim 3, wherein the vesicles derived from bacteria belonging to the genus *Sphingomonas* are secreted from *Sphingomonas koreensis*.~~

【Claim 5】 ~~【Claim 8】~~

The use of claim 3, wherein the composition is a pharmaceutical composition, ~~A~~ a food composition or a cosmetic composition.~~for preventing or alleviating one or more diseases selected from the group consisting of hepatic cirrhosis, liver cancer, myocardial infarction, renal insufficiency, diabetes, brain tumors, mild cognitive impairment, dementia, depression, autism, and atopic dermatitis, comprising vesicles derived from bacteria belonging to the genus Sphingomonas as an active ingredient.~~

~~【Claim 9】~~

~~The food composition of claim 8, wherein the vesicles have an average diameter of 10 to 200 nm.~~

~~【Claim 10】~~

~~The food composition of claim 8, wherein the vesicles are secreted naturally or artificially from bacteria belonging to the genus Sphingomonas.~~

~~【Claim 11】~~

~~The food composition of claim 8, wherein the vesicles derived from bacteria belonging to the genus Sphingomonas are secreted from Sphingomonas paucimobilis.~~

~~【Claim 12】~~

~~The food composition of claim 8, wherein the vesicles derived from bacteria belonging to the genus Sphingomonas are secreted from Sphingomonas koreensis.~~

~~【Claim 13】~~

~~A cosmetic composition for preventing or alleviating atopic dermatitis, comprising vesicles derived from bacteria belonging to the genus Sphingomonas as an active ingredient.~~

~~【Claim 14】~~

~~A composition for delivering a drug for treating a brain disease, comprising vesicles derived from bacteria belonging to the genus Sphingomonas as an active ingredient.~~

~~【Claim 15】~~

~~The composition of claim 14, wherein the vesicles derived from bacteria belonging to the genus Sphingomonas are secreted from Sphingomonas paucimobilis.~~

~~【Claim 16】~~

~~The composition of claim 14, wherein the vesicles derived from bacteria belonging to the genus Sphingomonas are secreted from Sphingomonas koreensis.~~

~~【Claim 17】~~

~~A method of diagnosing one or more diseases selected from the group consisting of hepatic cirrhosis, liver cancer, myocardial infarction, renal insufficiency, diabetes, brain~~

tumors, mild cognitive impairment, dementia, depression, autism, and atopic dermatitis, the method comprising the following steps:

(a) extracting DNAs from vesicles isolated from samples of a normal individual and a subject;

(b) performing polymerase chain reaction (PCR) on the extracted DNA using a pair of primers prepared based on a gene sequence present in 16S rDNA to obtain each PCR product; and

(c) determining a case in which a content of vesicles derived from bacteria belonging to the genus *Sphingomonas* is lower than that of the normal individual sample, as one or more diseases selected from the group consisting of hepatic cirrhosis, liver cancer, myocardial infarction, renal insufficiency, diabetes, brain tumors, mild cognitive impairment, dementia, depression, autism, and atopic dermatitis, through quantitative analysis of the PCR product.

【Claim 18**】**

A method of preventing or treating one or more diseases selected from the group consisting of hepatic cirrhosis, liver cancer, myocardial infarction, renal insufficiency, diabetes, brain tumors, mild cognitive impairment, dementia, depression, autism, and atopic dermatitis, the method comprising a step of administering a composition comprising vesicles derived from bacteria belonging to the genus *Sphingomonas* as an active ingredient to a subject.

【Claim 19**】**

A use of vesicles derived from bacteria belonging to the genus *Sphingomonas* for producing a medicine used for one or more diseases selected from the group consisting of hepatic cirrhosis,

~~liver cancer, myocardial infarction, renal insufficiency, diabetes, brain tumors, mild cognitive impairment, dementia, depression, autism, and atopic dermatitis.~~

【Claim 6】 ~~【Claim 20】~~

Use of *Sphingomonas paucimobilis*-derived vesicles in the manufacture of a composition for delivering a drug treating a brain disease. ~~A use of vesicles derived from bacteria belonging to the genus Sphingomonas for delivering a drug for treating a brain disease.~~