Claims

[Claim 1]

Use of an oxygen gas, a perfluorocarbon or a perfluorocarbon dissolving oxygen therein in the manufacture of a pharmaceutical composition for use in a method of improving hypoxic condition in a subject having the hypoxic condition, wherein the pharmaceutical composition is to be administered into a large intestine, the pharmaceutical composition comprising a perfluorocarbon dissolving oxygen therein.

[Claim 2]

The use according to claim 1, wherein the perfluorocarbon is perfluorodecalin .

[Claim 3]

The use according to claim 1 or 2, wherein the pharmaceutical composition is to be administered to a subject having respiratory failure.

[Claim 4]

The use according to any one of claims 1 to 3, wherein improving the hypoxic condition comprises supplying oxygen to blood of a subject.

[Claim 5]

The use according to any one of claims 1 to 4, wherein the pharmaceutical composition is to be administered with an administration device for administration into a large intestine.

[Claim 6]

The use according to any one of claims 1 to 4, wherein the pharmaceutical composition is mixed with oxygen gas before administration and is to be administered into a large intestine.

[Claim 7]

Use of an oxygen gas, a perfluorocarbon, or a perfluorocarbon dissolving oxygen therein in the manufacture of a pharmaceutical composition for use in a method of improving hypoxic condition in a subject having the hypoxic condition, wherein the pharmaceutical composition is to be administered into a large intestine of the subject, the large intestine being subjected to mucosal removal or being coated with a perfluorocarbon.

[Claim 8]

The use according to any one of claims 1 to 4 and 6 to 7, wherein the composition is to be administered by intrarectal administration.

[Claim 9]

The use according to any one of claims 1 to 4 and 6 to 8, wherein improving the hypoxic condition comprises decreasing blood carbon dioxide partial pressure of a subject.

[Claim 10]

Use of an oxygen gas and/ or a perfluorocarbon in the manufacture of a kit for use in a method for improving hypoxic condition in a subject, the kit

comprising: a composition in a form of gas, comprising oxygen gas; and a composition comprising a perfluorocarbon, wherein the composition is to be administered into a large intestine.

[Claim 11]

The use according to claim 10, wherein improving hypoxic condition comprises increasing blood oxygen partial pressure of a subject.

[Claim 12]

The use according to claim 10 or 11, wherein improving the hypoxic condition comprises decreasing blood carbon dioxide partial pressure of a subject.

[Claim 13]

The use according to any one of claims 1 to 4 and 6 to 9, wherein the pharmaceutical composition is to be administered with an administration device for administration into a large intestine.

[Claim 14]

Use of an oxygen gas, a perfluorocarbon, or a perfluorocarbon dissolving oxygen therein in the manufacture of a pharmaceutical composition for use in a method of improving hypoxic condition in a subject having the hypoxic condition, wherein the pharmaceutical composition is to be administered into a large intestine of the subject with an administration controller, the administration controller comprising: a delivering unit configured to deliver the perfluorocarbon dissolving

oxygen therein or the oxygen gas to a tube; and a controlling unit configured to control a rate of delivery from the delivering unit on the basis of blood oxygen saturation of the subject and intraintestinal pressure of the large intestine of the subject.

[Claim 15]

The use according to claim 14, wherein the administration controller further comprises a receiving unit configured to receive information on oxygen saturation from a blood oxygen monitor and intraintestinal pressure of a large intestine.

[Claim 16]

The use according to claim 14 or 15, wherein the administration controller comprises:

a controlling unit configured to control a rate of delivery from the delivering unit on the basis of blood oxygen saturation of the subject, wherein

(A) the controlling unit refers to information on oxygen saturation received by a receiving unit, and if the oxygen saturation has reached lower than a predetermined value or a predetermined value or lower, the controlling unit sends a signal to increase the rate of delivery to the delivering unit; and/or

(B) the controlling unit refers to information on oxygen saturation received by a receiving unit, and if the oxygen saturation has reached a predetermined value or higher or higher than a predetermined value, the

controlling unit sends a signal to decrease the rate of delivery to the delivering unit.

[Claim 17]

The use according to any one of claims 14 to 16, wherein the administration controller further comprises:

a controlling unit configured to control a rate of delivery from the delivering unit on the basis of intraintestinal pressure of a large intestine of the subject, wherein

(C) the controlling unit refers to information on intraintestinal pressure of a large intestine received by a receiving unit, and if the intraintestinal pressure has reached lower than a predetermined value or a predetermined value or lower or if the intraintestinal pressure has increased during liquid delivery, the controlling unit stops sending a signal to increase the rate of delivery to the delivering unit, or sends a signal to decrease the rate of delivery to the delivering unit.

[Claim 18]

The use according to any one of claims 1 to 4 and 6 to 9, wherein the pharmaceutical composition is to be administered into a large intestine with dose control using an administration controller, wherein

the administration controller is an administration controller for administering a perfluorocarbon dissolving oxygen therein or oxygen, and comprises: a delivering

unit configured to deliver the perfluorocarbon dissolving oxygen therein or oxygen to a tube; and a controlling unit configured to control a rate of delivery from the delivering unit on the basis of blood oxygen saturation of the subject and/or intraintestinal pressure of a large intestine of the subject.