# Claims

[Claim 1]

Use of a cell population of an LNGFR (CD271)-positive or LNGFR (CD271)/Thy-1 (CD90) double-positive rapidly proliferating mesenchymal stem cell clone or progeny thereof, in the manufacture of a pharmaceutical composition for treating and/or preventing mitochondrial disease.

[Claim 2]

The use according to claim 1, wherein the mitochondrial disease is MELAS (mitochondrial myopathy, encephalopathy, lactic acidosis, and stroke-like episodes).

[Claim 3]

The use according to claim 1 or 2, wherein a coefficient of variation of forward scatter from the cell population or the progeny thereof by flow cytometry is 40% or less.

[Claim 4]

The use according to claim 1, wherein the cell population is derived from human bone marrow.

[Claim 5]

The use according to claim 1, wherein the cell population is obtained by a method, comprising:

(a) obtaining a population of LNGFR (CD271)-positive or LNGFR (CD271)/Thy-1 (CD90) double-positive mesenchymal stem cells;

(b) subjecting clones of the mesenchymal stem cells to single-cell culture; and

(c) collecting a clone that proliferates rapidly and subjecting the clone to expansion culture.

[Claim 6]

The use according to claim 5, wherein the method further comprises: (d) measuring a coefficient of variation of forward scatter by flow cytometry, and (e) collecting a population wherein the coefficient of variation of forward scatter by the flow cytometry is 40% or less.

[Claim 7]

The use according to claim 1, wherein the composition is to be intravenously administered to a subject.

[Claim 8]

An agent for improving mitochondrial dysfunction, comprising a cell population of an LNGFR (CD271)-positive or LNGFR (CD271)/Thy-1 (CD90) double-positive rapidly proliferating mesenchymal stem cell clone or progeny thereof.

[Claim 9]

An agent for use as a medicament, comprising a cell population of an LNGFR (CD271)-positive or LNGFR (CD271)/Thy-1 (CD90) double-positive rapidly proliferating mesenchymal stem cell clone or progeny thereof.

[Claim 10]

An agent for use in improving mitochondrial dysfunction, comprising a cell population of an LNGFR (CD271)-positive or LNGFR (CD271)/Thy-1 (CD90) double-positive rapidly proliferating mesenchymal stem cell clone or progeny thereof.