【CLAIMS】

1. A pharmaceutical composition for use in the treatment of osteoarthritis comprising a transformed mammalian cell population and an untransformed mammalian cell population,

wherein the transformed mammalian cell population is prepared by a process comprising collecting a cell suspension in which a transformed mammalian cell is cultured and sieving the cell suspension with a cell strainer having pore sizes less than 200 μm,

wherein the untransformed mammalian cell population is prepared by collecting a cell suspension in which an untransformed mammalian cell is cultured and sieving the cell suspension with a cell strainer having pore sizes less than 300 μm,

wherein cells or cell groups included in the transformed mammalian cell population have a particle diameter $D_{90}$ of less than 200 μm,

wherein the transformed mammalian cell is transformed with a transforming growth factor beta (TGF-β) and treated by irradiation,

wherein the cells or cell groups included in the untransformed mammalian cell population have a particle diameter $D_{90}$ of less than 300 μm,

wherein the untransformed mammalian cell is a

chondrocyte, and

wherein the pharmaceutical composition is to be administered by intra-articular injection.

2. The pharmaceutical composition for use in the treatment of osteoarthritis according to claim 1, wherein the untransformed mammalian cell population and the transformed mammalian cell population are mixed in a mixing ratio of 1 to 10 : 1 based on the number of cells.

3. A kit for preparation of a pharmaceutical composition for use in the treatment of osteoarthritis, comprising a mammalian cell population transformed with a transforming growth factor beta (TGF-β) and an untransformed mammalian cell population, wherein cells or cell groups included in the transformed mammalian cell population have a particle diameter $D_{90}$ of less than 200 μm,

wherein the transformed mammalian cell population is prepared by a process comprising collecting a cell suspension in which a transformed mammalian cell is cultured and sieving the cell suspension with a cell strainer having pore sizes less than 200 μm,

wherein the untransformed mammalian cell population is prepared by collecting a cell suspension in which an untransformed mammalian cell is cultured and sieving the

cell suspension with a cell strainer having pore sizes less than 300 μm,

wherein the transformed mammalian cell is treated by irradiation,

wherein the cells or cell groups included in the untransformed mammalian cell population have a particle diameter $D_{90}$ of less than 300 μm,

wherein the untransformed mammalian cell is a chondrocyte, and

wherein the pharmaceutical composition is to be administered by intra-articular injection.

4. The kit for preparation of a pharmaceutical composition for use in the treatment of osteoarthritis according to claim 3, wherein the untransformed mammalian cell population and the transformed mammalian cell population are mixed in a mixing ratio of 1 to 10 : 1 based on the number of cells.

5. A method for manufacturing an osteoarthritis therapeutic agent, comprising the steps of:

(1) preparing a transformed mammalian cell population with TGF-β and an untransformed mammalian cell population, respectively;

(2) selecting cells or cell groups having a particle diameter $D_{90}$ of less than 200 μm included in the transformed

mammalian cell population with TGF-β in the above step (1) by collecting a cell suspension in which a transformed mammalian cell is cultured and sieving the cell suspension with a cell strainer having pore sizes less than 200 μm to obtain a filtrate of the transformed mammalian cell population; and cells or cell groups having a particle diameter $D_{90}$ of less than 300 μm included in the untransformed mammalian cell population by collecting a cell suspension in which an untransformed mammalian cell is cultured and sieving the cell suspension with a cell strainer having pore sizes less than 300 μm to obtain a filtrate of the untransformed mammalian cell population, respectively;

(3) filling a separate vial with both of the selected cell populations in step (2), respectively; and

(4) mixing the selected cell populations in the vial in step (3),

wherein the untransformed mammalian cell is a chondrocyte,

wherein the transformed mammalian cell population with TGF-β in step (1) is further irradiated,

wherein the mammalian cell is transformed with a transforming growth factor beta (TGF-β), and

wherein the osteoarthritis therapeutic agent is to be administered by intra-articular injection.

6. The method according to claim 5, wherein the mixing in step (4) is to mix the untransformed mammalian cell population and the transformed mammalian cell population in step (2) in a mixing ratio or 1 to 10 : 1 based on the number of cells.