The mesenchymal stem cell of the present invention is a cell isolated from an embryonic stem cell or an adult stem cell derived from mammals, preferably an umbilical cord-derived mesenchymal stem cell, and more preferably a human umbilical cord-derived mesenchymal stem cell. The stem cell can be obtained by collecting an umbilical cord connecting the fetus and placenta in human bodies. The mesenchymal stem cell from the umbilical cord can be collected using various methods. For example, a solution containing a mononuclear cell can be obtained by collecting the umbilical cord from human bodies, washing the collected umbilical cord using DPBS until blood no longer comes out, cutting the washed umbilical cord using a surgical blade, and subjecting it to incubation at 37°C.

As used herein, the term "medium" refers to a mixture for *in vitro* culture or differentiation of a cell, such as stem cell and the like, containing elements essential for growth and proliferation of the cell, such as sugars, amino acids, various nutriments, serums, growth factors, minerals, and the like.

Various media are sold on the market in the art, and a medium may be artificially produced to be used. Media on the market may include Dulbecco's Modified Eagle's Medium (DMEM), Minimal Essential Medium (MEM), Basal Medium Eagle (BME), RPMI 1640, F-10, F-12, DMEM F-12, α-Minimal Essential Medium (α-MEM), Glasgow's Minimal Essential Medium (G-MEM), Iscove's Modified Dulbecco's Medium (IMPM), AmnioMax complete Medium (Gibco, New York, USA), AminoMaxII complete Medium (Gibco, New York, USA), Chang's Medium MesenCult-XF Medium (STEMCELL

Technologies, Vancouver, Canada), and the like. These media, as well as media that may be artificially produced, may be used as a basal medium contained in the medium composition of the present invention.

A serum component (e.g., Fetal Bovine Serum (FBS)), an antibiotic (e.g., penicillin, streptomycin), and the like, which are typically added, may be added to the basal medium. The concentrations of the serum component or antibiotic component contained in the basal medium may vary within the range that can achieve the effect of the present invention, and preferably 10% FBS, 100 unit/mL penicillin, 50 μg/mL streptomycin, and the like may be added.

Also, the medium of the present invention may further contain a nutrient mixture. The nutrient mixture, a mixture including various amino acids, vitamins, mineral salts, and the like, which are generally used in cell culture, may be prepared by mixing the amino acids, vitamins, mineral salts, and the like, or a commercially prepared nutrient mixture may be used. Examples of commercially produced nutrient mixtures may include, but are not limited to, M199, MCDB110, MCDB202, MCDB302, and the like.

Also, the medium of the present invention may further contain energy water for the induction and stabilization of pluripotent stem cells. The energy water may be contained preferably in an amount of 0.01 to 10 v/v%, and more preferably in an amount of 0.05 to 0.5 v/v%.

The medium composition of the present invention can be achieved by adding the

What is claimed is:

1. A method for producing an induced pluripotent stem cell, the method comprising:

adding an *Ecklonia cava* extract to a cell culture medium in an amount of 100 to 400 μg/mL with respect to the cell culture medium composition; and

dedifferentiating a mesenchymal stem cell into an induced pluripotent stem cell in the medium.

2. The method of claim 1, wherein the cell culture medium comprises Dulbecco's Modified Eagle's Medium (DMEM), Minimal Essential Medium (MEM), Basal Medium Eagle (BME), RPMI 1640, F-10, F-12, DMEM-F12, α-Minimal Essential Medium (α-MEM), Glasgow's Minimal Essential Medium (G-MEM), Iscove's Modified Dulbecco's Medium (IMDM), and McCoy's 5A Medium.

3. The method of claim 1, wherein the cell culture medium further comprises 0.01 to 10 v/v% of purified deionized water containing SiO_2, Al_2O_3, TiO_3, Fe_2O_3, CaO, Na_2O, K_2O, and LiO.