【CLAIMS】

【Claim 1】

A composition for ciliogenesis comprising a conditioned medium obtained by culturing a mesenchymal stem cell, wherein the mesenchymal stem cell is cultured in α-modified Minimum Essential Medium (αMEM) containing 10% fetal bovine serum and 0.5% gentamicin.

【Claim 2】

The composition for ciliogenesis according to claim 1, wherein the mesenchymal stem cell is a mesenchymal stem cell derived from bone marrow matrix, adipose tissue, umbilical cord, cartilage, placenta, or umbilical cord blood.

【Claim 3】

A composition for ciliogenesis comprising mesenchymal stem cell, wherein the mesenchymal stem cell is cultured in α-modified Minimum Essential Medium (αMEM) containing 10% fetal bovine serum and 0.5% gentamicin.

【Claim 4】

The composition for ciliogenesis according to claim 3, wherein the mesenchymal stem cell is a mesenchymal stem cell derived from bone marrow matrix, adipose tissue, umbilical cord, cartilage, placenta, or umbilical cord blood.

【Claim 5】

A pharmaceutical composition for use in preventing or treating ciliopathy or ciliary impairment comprising a conditioned medium obtained by culturing mesenchymal stem cells, wherein the mesenchymal stem cells are cultured in α-modified Minimum Essential Medium (αMEM) containing 10% fetal bovine serum and 0.5% gentamicin.

【Claim 6】

The pharmaceutical composition according to claim 5, wherein the mesenchymal stem cell is a mesenchymal stem cell derived from bone marrow matrix, adipose tissue, umbilical cord,

cartilage, placenta, or umbilical cord blood.

【Claim 7】

The pharmaceutical composition according to claim 5 or 6, wherein the ciliopathy is selected from Bardet-Biedl syndrome (BBS), Alstrom syndrome, polycystic kidney disease (PKD), renal cysts, respiratory disorder, infertility, situs inversus, cancer, and metabolic diseases such as diabetes, obesity, and hypertension.

【Claim 8】

A pharmaceutical composition for use in preventing or treating ciliopathy or ciliary impairment comprising mesenchymal stem cell, wherein the mesenchymal stem cell is cultured in α-modified Minimum Essential Medium (αMEM) containing 10% fetal bovine serum and 0.5% gentamicin.

【Claim 9】

The pharmaceutical composition according to claim 8, wherein the mesenchymal stem cell is a mesenchymal stem cell derived from bone marrow matrix, adipose tissue, umbilical cord, cartilage, placenta, or umbilical cord blood.

【Claim 10】

The pharmaceutical composition according to claim 8 or 9, wherein the ciliopathy is selected from Bardet-Biedl syndrome (BBS), Alstrom syndrome, polycystic kidney disease (PKD), renal cysts, respiratory disorder, infertility, situs inversus, obesity, diabetes, hypertension, and cancer.

【Claim 11】

A method for inducing ciliogenesis in a cell having structurally or functionally defective cilia by co-culturing a mesenchymal stem cell with the cell ex vivo, wherein the mesenchymal stem cell and the cell having structurally or functionally defective cilia are cultured without cell-to-cell contact.

【Claim 12】

The method of claim 11, wherein the mesenchymal stem cell is a mesenchymal stem cell derived from bone marrow matrix, adipose tissue, umbilical cord, cartilage, placenta, or umbilical cord blood.

【Claim 13】

The method according to claim 11 or 12, wherein the cell having structurally or functionally defective cilia is selected from ciliated epithelial cells, retinal cells, skin cells, and auditory cells.

【Claim 14】

A cosmetic composition for ciliogenesis comprising a conditioned medium obtained by culturing mesenchymal stem cell, wherein the mesenchymal stem cell is cultured in α-modified Minimum Essential Medium (αMEM) containing 10% fetal bovine serum and 0.5% gentamicin.

【Claim 15】

The cosmetic composition according to claim 14, wherein the mesenchymal stem cell is a mesenchymal stem cell derived from bone marrow matrix, adipose tissue, umbilical cord, cartilage, placenta, or umbilical cord blood.

【Claim 16】

The cosmetic composition according to claim 14 or 15, wherein the cosmetic composition is for promoting hair regeneration, skin whitening, or protecting keratinocytes.