Claims

[Claim 1]

A composition comprising: a biocompatible material; and cells derived from human pluripotent stem cells, for use in a method for producing a biological tissue-like structure in a biological tissue of a host animal, wherein the cells derived from human pluripotent stem cells are disposed to be dispersed in the biocompatible material, and wherein the method comprises transplanting the composition into a biological tissue of a host animal to induce differentiation of the cells derived from human pluripotent stem cells disposed to be dispersed in the biocompatible material.

[Claim 2]

The composition according to claim 1, wherein the biocompatible material is a fibrin gel.

[Claim 3]

The composition according to claim 2, wherein the composition is obtained by mixing the cells derived from human pluripotent stem cells with fibrinogen and thrombin for gelation immediately before use of the composition.

[Claim 4]

The composition according to any one of claims 1 to 3, wherein the cells derived from human pluripotent stem cells are present in a form of a plurality of spheroids.

[Claim 5]

The composition according to any one of claims 1 to 4, wherein a proportion of Ki67-positive cells in the cells derived from human pluripotent stem cells is less than 3%.

[Claim 6]

The composition according to any one of claims 1 to 5, wherein the cells derived from human pluripotent stem cells are insulin-producing cells.

[Claim 7]

The composition according to claim 1, wherein the biological tissue of the host animal is a subcutaneous tissue.

[Claim 8]

The composition according to any one of claims 1 to 7, wherein the biological tissue-like structure comprises: a plurality of clusters consisting of differentiated cells obtained by inducing differentiation of the cells derived from human pluripotent stem cells; a connective tissue derived from the host animal; and blood vessels derived from the host animal, wherein the plurality of clusters consisting of differentiated cells is present to be

dispersed in the biological tissue-like structure, the connective tissue surrounds the plurality of clusters consisting of differentiated cells, and the blood vessels are intruding into the plurality of clusters consisting of differentiated cells.

[Claim 9]

The composition according to claim 8, wherein the differentiated cells comprise no exocrine cell.

[Claim 10]

A biological tissue-like structure comprising: a plurality of clusters consisting of differentiated cells obtained by inducing differentiation of cells derived from human pluripotent stem cells; a connective tissue derived from a host animal; and blood vessels derived from the host animal, wherein the plurality of clusters consisting of differentiated cells is present to be dispersed in the biological tissue-like structure, the connective tissue surrounds the plurality of clusters consisting of differentiated cells, and the blood vessels are intruding into the plurality of clusters consisting of differentiated cells and wherein the biological tissue-like structure is not housed in any devices.

[Claim 11]

The biological tissue-like structure according to claim 10, wherein the differentiated cells comprise pancreatic β cells.

[Claim 12]

The biological tissue-like structure according to claim 10 or 11, wherein the differentiated cells comprise no exocrine cell.

[Claim 13]

The biological tissue-like structure according to any one of claims 10 to 12, for use in controlling a blood glucose level of a test subject with the biological tissue-like structure transplanted thereinto to a normal level.