CLAIMS

1. A method of integrating a biological tissue with a vascular system *in vitro*, comprising coculturing a biological tissue with vascular cells and mesenchymal cells.
2. The method of calim1, wherein the biological tissue is cocultured with vascular cells and mesenchymal cells without using scaffold materials.
3. The method of claim 1 or 2, wherein by coculturing the biological tissue with vascular cells and mesenchymal cells, the biological tissue is integrated with a vascular system so that the function of the biological tissue is maintained and/or improved.
4. A biological tissue which has been integrated with a vascular system by the method of any one of claims 1 to 3.
5. A method of preparing a tissue or an organ, comprising transplanting the biological tissue of claim 4 into a non-human animal and differentiating the biological tissue into a tissue or an organ in which vascular networks have been constructed.
6. A method of regeneration or function recovery of a tissue or an organ, comprising transplanting the biological tissue of claim 4 into a human or a non-human animal and differentiating the biological tissue into a tissue or an organ in which vascular networks have been constructed.
7. A method of preparing a non-human chimeric animal, comprising transplanting the biological tissue of claim 4 into a non-human animal and differentiating the biological tissue into a tissue or organ in which vascular networks have been constructed.
8. A method of evaluating a drug, comprising using at least one member selected from the group consisting of the biological tissue of claim 4, the tissue or organ prepared by the method of claim 5, and the non-human chimeric animal prepared by the method of claim 7.
9. A composition for regenerative medicine, comprising the biological tissue of claim 4.
10. The composition of claim 9, which is used for preparing a tissue or an organ.
11. The composition of claim 9, which is used for regeneration or function recovery of a tissue or an organ.
12. The composition of any one of claims 9 to 11, wherein the biological tissue differentiates into a tissue or an organ with vascular networks upon transplantation into a living body.

CLAIMS

1. A method of integrating a biological tissue with a vascular network *in vitro*, comprising coculturing a biological tissue with vascular cells and mesenchymal cells, wherein the biological tissue is cocultured with vascular cells and mesenchymal cells without using scaffold materials.

2. The method of claim 1, wherein by coculturing the biological tissue with vascular cells and mesenchymal cells, the biological tissue is integrated with a vascular network so that the function of the biological tissue is maintained and/or improved.

3. A method of evaluating a drug, comprising using at least one member selected from the group consisting of a biological tissue which has been integrated with a vascular network by the method of claim 1 or claim 2, a tissue or organ prepared by transplanting a biological tissue which has been integrated with a vascular network by the method of claim 1 or claim 2, into a non-human animal and differentiating the biological tissue into a tissue or an organ in which vascular networks have been constructed, and a non-human chimeric animal prepared by transplanting a biological tissue which has been integrated with a vascular network by the method of claim 1 or claim 2, into a non-human animal and differentiating the biological tissue into a tissue or organ in which vascular networks have been constructed.

4. A regenerative medicine composition, comprising a biological tissue which has been integrated with a vascular network by the method of claim 1 or claim 2.

5. The composition of claim 4, which is used for preparing a tissue or an organ.

6. The composition of claim 4, which is used for regeneration or function recovery of a tissue or an organ.

7. The composition of any one of claims 4 to 6, wherein the biological tissue differentiates into a tissue or an organ with vascular networks upon transplantation into a living body.