

CLAIMS

1. A method of preparing an organ bud, comprising culturing vascular endothelial cells, mesenchymal cells and a tissue or organ cell *in vitro* in the presence of blood cells.
2. The method of claim 1, wherein the organ bud is a structure capable of differentiating into an organ through maturing.
3. The method of claim 1 or 2, wherein an organ bud with improved functions is prepared compared with an organ bud prepared by culturing vascular endothelial cells, mesenchymal cells and a tissue or organ cell *in vitro* in the absence of blood cells.
4. The method of any one of claims 1 to 3, wherein cells are cultured without using scaffold materials.
5. The method of any one of claims 1 to 4, wherein the blood cell comprises an undifferentiated hematopoietic cell.
6. The method of claim 5, wherein the undifferentiated hematopoietic cell is a hematopoietic progenitor cell and/or a hematopoietic stem cell.
7. The method of any one of claims 1 to 6, wherein the blood cell is derived from cord blood.
8. The method of claim 7, wherein the blood cell is a cell of the monocyte fraction of cord blood.
9. The method of any one of claims 1 to 8, wherein the tissue or organ cell is an undifferentiated cell induced from a pluripotent stem cell.
10. The method of claim 9, wherein the pluripotent stem cell is an induced pluripotent stem cell.
11. The method of claim 9 or 10, wherein the pluripotent stem cell is derived from human.
12. The method of any one of claims 1 to 11, wherein the organ bud is a liver bud.
13. The method of claim 12, wherein a liver bud with an improved albumin secretory capacity is prepared compared with a liver bud prepared by culturing vascular endothelial cells, mesenchymal cells and a tissue or organ cell *in vitro* in the absence of blood cells.
14. The method of claim 12 or 13, wherein a liver bud with increased expression of hepatocyte differentiation marker genes is prepared compared with a liver bud prepared by culturing vascular endothelial cells, mesenchymal cells and a tissue or organ cell *in vitro* in the absence of blood cells.

15. The method of claim 14, wherein the hepatocyte differentiation marker gene is at least one marker selected from the group consisting of α fetoprotein, albumin, CYP3A7, tryptophan metabolic enzyme TDO2 and sodium-taurocholate cotransporter.
16. An organ bud prepared by the method of any one of claims 1 to 15.
17. A method of evaluating a drug, comprising using at least one selected from the group consisting of (i) an organ bud prepared by the method of any one of claims 1 to 15, (ii) a tissue or an organ prepared by the transplantation of the organ bud of (i) into a non-human animal followed by differentiation into the tissue or organ, and (iii) a non-human chimeric animal in which the organ bud of (i) is transplanted and differentiated into a tissue or an organ.