to the above embodiment may further include a step for cryopreserving the obtained NKT cell-stimulating dendritic cells. In addition, the predetermined factor in the step for differentiating the cell in the NKT cell-stimulating dendritic cells manufacturing method may be at least one of IL-4 or granulocyte macrophage colony stimulating factor.

Also, the predetermined factor in the step for maturing the cell in the NKT cell-stimulating dendritic cells manufacturing method may be any one of the factor selected from the group consisting of IL-4, granulocyte macrophage colony stimulating factor, tumor necrosis factor α, and prostaglandin E2.

Also, the galactosylceramide concentration for inducing the cell in the NKT cell-stimulating dendritic cells manufacturing method may be in the range from 10 to 1,000 ng/mL.

Further, the cell composition manufacturing method according to the above embodiment may also further include a step for cryopreserving the obtained cell composition.

In addition, the predetermined factor in the step for differentiating the cell in cell composition manufacturing method may be at least one of IL-4 or granulocyte macrophage colony stimulating factor.

Also, the predetermined factor in the step for maturing the cell in cell composition manufacturing method may be any one of the factor selected from the group consisting of IL-4, granulocyte macrophage colony stimulating factor, tumor necrosis factor α, and a prostaglandin E2.

Further, the galactosylceramide concentration for inducing the cell in the method for manufacturing the cell composition may be in the range from 10 to 10,000 ng/mL.

CLAIMS

1. A method for manufacturing natural killer T (NKT) cell-stimulating dendritic cells, the method comprising the steps of:

(a1) an adhering step in which mononuclear cells are placed into a culture vessel and the culture vessel is kept still so as to allow some of the mononuclear cells to adhere to a bottom surface of the vessel;

(b1) a removal step in which suspended cells other than the cells which have adhered to the bottom surface of the culture vessel are removed;

(c1) a differentiation step in which both IL-4 and granulocyte macrophage colony-stimulating factor are added into the culture vessel so as to cause monocytes among the cells which have adhered to the bottom surface to differentiate into immature dendritic cells;

(d1) a maturation step in which IL-4, granulocyte macrophage colony-stimulating factor, tumor necrosis factor α, and prostaglandin E2 are added into the culture vessel so as to mature the immature dendritic cells; and

(e1) an induction step in which α-galactosylceramide is added into the culture vessel so as to induce NKT cell-stimulating dendritic cells from the mature dendritic cells.

2. The method for manufacturing NKT cell-stimulating dendritic cells according to any one of claims 1, wherein the concentration of the α-galactosylceramide in the induction step is 10 to 1,000 ng/mL.

3. The method for manufacturing NKT cell-stimulating dendritic cells according to any one of claims 1 or 2, wherein the method further comprises a step for cryopreserving the obtained NKT cell-stimulating dendritic cells.

4. A method for manufacturing a cell composition containing NKT cell-stimulating dendritic cells and NKT cells, the method comprising:

(a2) an adhering step in which mononuclear cells are placed into a first culture vessel and the first culture vessel is kept still so as to allow some of the mononuclear cells to adhere to a bottom surface of the vessel;

(b2) a collection step in which suspended cells other than the cells which have adhered to the bottom surface of the vessel are collected and preserved;

(c2) a differentiation step in which both IL-4 and granulocyte macrophage

colony-stimulating factor are added into the first culture vessel so as to cause monocytes among the cells which have adhered to the bottom surface to differentiate into immature dendritic cells;

(d2) a maturation step in which IL-4, granulocyte macrophage colony-stimulating factor, tumor necrosis factor α, and prostaglandin E2 are added into the first culture vessel so as to mature the immature dendritic cells;

(e2) a dendritic cell induction step in which α-galactosylceramide is added into the first culture vessel so as to induce NKT cell-stimulating dendritic cells from the mature dendritic cells;

(f2) an NKT cell induction step in which the NKT cell-stimulating dendritic cells and the preserved suspended cells are placed in a second culture vessel and the cells are cultured so as to induce NKT cells from some of the suspended cells;

(g) cell group preparing step in which the cell groups comprising cells on the seventh day from the start of culturing, and a suspension of thawed non-adhered cells preserved on Day 0 in the medium containing IL-2 are prepared; and

(h) NKT obtaining step, in which NKT cells are obtained by seeing the cell groups prepared in the step (g) into seeding bags with a connecting tube, and cultured in a CO_2 incubator.

5. The method for manufacturing a cell composition according to claim 4, wherein the concentration of the α-galactosylceramide in the induction step is 10 to 1,000 ng/mL.

6. The method for manufacturing a cell composition according to claim 4 or 5, wherein the method further comprises cryopreserving the cell composition containing the obtained NKT-stimulating cells and the NKT cells.