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 cell groups comprising cells on the seventh day from the start of culturing, and a suspension of thawed non-adhered cells preserved in step (b2) are treated by IL-2 are prepared; and

(h) NKT obtaining step, in which NKT cells are obtained by seeding the cell groups prepared in the step (g) into cell culture 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.