

[ABSTRACT]

The present invention provides a method for producing a natural killer (NK) cell or a progenitor cell thereof from a pluripotent stem cell, including

- 5 a) a step of inducing a hematopoietic progenitor cell (HPC) from a pluripotent stem cell in vitro;
 - b) a step of expanding HPC in vitro; and
 - c) a step of inducing an NK cell or a progenitor cell thereof from HPC in vitro, wherein
- 10 a histone methyltransferase and/or an aryl hydrocarbon receptor (AHR) are/is inhibited in one or more steps of steps a) to c); and
- a method including
- (1) a step of forming pluripotent stem cell spheres having an
 - 15 average particle size of not less than 200 μm in a first medium;
 - (2) a step of inducing the pluripotent stem cell spheres obtained in step (1) into a cell population containing HPCs by three-dimensional culture using a second medium containing a
 - 20 histone methyltransferase inhibitor and/or an AHR antagonist; and
 - (3) a step of inducing the cell population containing HPCs obtained in step (2) into a cell population containing NK cells or progenitor cells thereof by three-dimensional culture using
 - 25 a third medium containing a histone methyltransferase inhibitor and/or an AHR antagonist,
- wherein one or more steps of steps (1) to (3) are performed by a perfusion culture method, preferably steps (1) to (3) are performed by a continuous perfusion culture method.

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[No suitable figure]