

CLAIMS

1. A method for producing a corneal epithelial cell population for fabrication of corneal epithelial cell sheets for transplantation, the method comprising the steps of:
- (1) preparing a cell population containing corneal epithelial cells;
- (2) subjecting the cell population prepared in step (1) to magnetic-activated cell sorting and collecting CD200-negative/SSEA-4-positive cells; and
- (3) bringing the cells collected in step (2) into contact with a laminin selected from the group consisting of a laminin having an $\alpha 3$ chain, a laminin having an $\alpha 4$ chain and a laminin having an $\alpha 5$ chain, or an E8 fragment thereof, and removing non-adherent cells and collecting cells adherent thereto.
2. The method according to claim 1, wherein step (3) comprises the substeps of:
- (3-1) bringing the cells collected in step (2) into contact with a laminin having an $\alpha 2$ chain or an E8 fragment thereof, and collecting non-adherent cells; and
- (3-2) bringing the collected non-adherent cells into contact with a laminin selected from the group consisting of a laminin having a laminin having an $\alpha 3$ chain, a laminin having an $\alpha 4$ chain and a laminin having an $\alpha 5$ chain, or an E8 fragment thereof, and removing non-adherent cells and collecting cells adherent thereto.

3. The method according to claim 1, wherein the cell population containing corneal epithelial cells is a periocular cell population derived by induced differentiation of pluripotent stem cells.

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4. The method according to claim 1, wherein the proportion of PAX6-positive/p63-positive cells in the corneal epithelial cell population for fabrication of corneal epithelial cell sheets for transplantation is 50% or more.

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5. The method according to any of claims 1 to 4, wherein the laminin selected from the group consisting of a laminin having an $\alpha 3$ chain, a laminin having an $\alpha 4$ chain and a laminin having an $\alpha 5$ chain, or an E8 fragment thereof is a laminin $\alpha 3\beta 3\gamma 2$ E8 fragment, a laminin $\alpha 4\beta 1\gamma 1$ E8 fragment or
15 a laminin $\alpha 5\beta 1\gamma 1$ E8 fragment.

6. The method according to claim 2, wherein the laminin having an $\alpha 2$ chain or an E8 fragment thereof is a laminin
20 $\alpha 2\beta 1\gamma 1$ E8 fragment.

7. A method for fabricating a corneal epithelial cell sheet for transplantation, the method comprising the step of culturing the corneal epithelial cell population produced
25 by the method according to any of claims 1 to 4.