

METHOD FOR PRODUCING HIGHLY PROLIFERATIVE CELL, AND HIGHLY
PROLIFERATIVE CELL AND USE THEREOF

ABSTRACT

A production method for highly proliferating cells or ectodermal progenitor cells, the production method including (i) preparing ectodermal cells which serve as a raw material, (ii) culturing the ectodermal cells which serve as the raw material in a medium containing a small-molecule signaling pathway inhibitor by bringing the inhibitor into contact with the ectodermal cells, and (iii) after the contact, performing additional culturing in a medium containing the inhibitor to obtain a culture containing highly proliferating cells that have higher cell proliferative ability than the ectodermal cells which serve as the raw material; highly proliferating cells having characteristics of ectodermal cells and proliferative ability that allows the number of the highly proliferating cells after more than 28 days of a culturing period during which the cells are brought into contact with a small-molecule signaling pathway inhibitor to be greater than 1.0 times the number of ectodermal cells which are cultured under the same culturing conditions, except that the cells are not brought into contact with the inhibitor, for the same culturing period; a cell-secreted product derived from

these highly proliferating cells or the highly proliferating cells obtained by the above production method for highly proliferating cells; a cell-secreted product including a predetermined protein and/or miRNA; a pharmaceutical composition for use in prevention or treatment of a disorder associated with peripheral nerve cells or central nerve cells, the pharmaceutical composition including these cell-secreted products; and an inhibition method for sympathetic nervous system, the inhibition method including bringing neurons into contact with a cell-secreted product secreted from the highly proliferating cells obtained by the above production method or the above highly proliferating cells.

[No Suitable Figure]