ABSTRACT

A membrane separation culture device 1, which comprises an upper structure 10 constituted with a vessel comprising a membrane 12 having, in at least a portion thereof, pores 121 that allow stem cells to permeate therethrough, and a lower structure 13 constituted with a vessel that retains a fluid in which the membrane of the upper structure is immersed; a membrane separation culture kit comprising the membrane separation culture device 1 and cell migration factor(s); a method for separating stem cells, which comprises a step of dispersing test cells or test tissues on the membrane 12 of the upper structure 10, a step of filling the lower structure 13 with a medium containing the cell migration factor(s), and a step of allowing the membrane 12 of the upper structure 10 to come into contact with the medium in the lower structure 13; and a separation membrane comprising a base material membrane consisting of a hydrophobic polymer and a functional layer formed by allowing one or more hydrophilic polymers selected from a vinyl pyrrolidone polymer, a polyethylene glycol polymer and a vinyl alcohol polymer to bind to the surface of the base material membrane via a covalent bond, wherein the weight percentage of the hydrophilic polymer(s) constituting the functional layer is 1.5% to 35% based on the total weight of the separation membrane.