

## Abstract

### [Object]

To provide an isolation and purification method for isolating and purifying extracellular vesicles.

### [Solution]

An isolation and purification method of extracellular vesicles is disclosed. A hollow fiber membrane has an inner diameter of 0.2 mm to 1.4 mm and a molecular weight cut-off of 100000 to 1000000. Filtering includes a first filtration process of press-fitting the culture supernatant of the mesenchymal stem cells from a first opening on one end side of the hollow fiber membrane and filtering the culture supernatant to separate the culture supernatant into a permeate and a first concentrate, and a second filtration process of press-fitting the first concentrate from a second opening on the other end side of the hollow fiber membrane and filtering the first concentrate to separate the first concentrate into a permeate and a second concentrate. A concentrate is produced in which a concentration of the extracellular vesicles is increased by alternating tangential flow filtration in which the first filtration process and the second filtration process are alternately performed a plurality of times. A membrane surface velocity in the first filtration process and the second filtration process is 0.3 m/sec to 2 m/sec.