ABSTRACT

Planar Patch Clamp Device and Planar Patch Clamp System

A planar patch clamp device comprising: an electrical insulating substrate (2) having a first surface having a cell arrangement region and a second surface of the opposite surface and having a through hole (3) in the cell arrangement region which does not pass cells, but pass liquid; a first reservoir (6) provided at the first surface side (2S) of the electrical insulating substrate (2) to be able to communicate with the through hole (3) and hold a first conductive liquid; a first electrode part (7) arranged to be able to be electrically conductive with the first reservoir (6) through the first conductive liquid;
a second reservoir (6') provided at the second surface side (2S') of the electrical insulating substrate to be able to communicate with the through hole (3) and hold a second conductive liquid; a second electrode part (7') arranged to be able to be electrically conductive with the second reservoir (6') through the second conductive liquid; a supply path (8) connected to the second reservoir (6') and supplying the second conductive liquid to the second reservoir; a discharge path (9) connected to the second reservoir and discharging the second conductive liquid from the second reservoir (6'); and a valve (10) provided in the supply path and/or discharge path, able to allow or stop the flow of the second conductive liquid, and also able to allow or stop electrical conduction between the second reservoir (6') and the second electrode part (7').
Figure 4A