

Dispensing and manipulating the droplet by ECC method

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In tissue engineering, organ printing is the important part to make the shape of the organ. To locate the cell on desired position, the droplet containing cells should be dispensed. There are many methods to dispense the droplet-on-demand.

EHD(Electrohydrodynamics) is the one of many methods, which is developed for many years. But dispensing by EHD would be harmful to the droplet, because of strong electric field between nozzle and bottom plate. ECC(Electric charge concentration) dispensing the droplet without bottom plate could be solution of this problem.

In this research, parameters affecting to dispensing and possibility of ECC method are confirmed. After checking the tendency between applied voltage and the size of the droplet dispensed by ECC method, accumulating of droplets with opposite charging would be shown.