

### Selection of islet-containing alginate capsules after microencapsulation of pancreatic islet

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Transplantation of pancreatic islet is one of therapeutic method of Diabetes Mellitus treatment. Islets, however, lose their ECM (extra-cellular matrix) during isolation process, and these bare islets clusters are vulnerable not only to attack by immune system but also to physical damage. Alginate capsule can solve these problems by making semi-permeable physical barrier. Conventional method of microencapsulation of islet using alginate was air-driven system, and applying this system, islets were conformably encapsulated. However, air-driven method always forms imperfect capsules such as islet-missed capsules, which cause enlargement of transplantation volume. Previous researchers have done the selection of encapsulated islet by hand-picking, and no research about advanced selection procedure has been accomplished. In this research, density-gradient method was applied to separate encapsulated islets and islet-missed capsules.