

Application Note

Alginate Kit

Kit Components

The Alginate Kit includes two vials of 100 mg freeze dried, sterile, alginate powder.

Description

Alginate is isolated from the cell walls of brown algae and is one of the most commonly used biomaterials. Alginate is a versatile biomaterial that has been utilized in diverse applications ranging from food to drug delivery. Alginates consist of arrangements of (1-4)-linked-D-mannuronic acid (M units) and -L-guluronic acid (G units) monomers. Alginate's biocompatibility, ease of use, and customizability has resulted in wide applications including bone and cartilage engineering, along with cell and drug delivery techniques.

Application

The Alginate Kit is sterile lyophilized powder that you dissolve at your target concentration to prepare as a bioink or 3D cell culture biomaterial. It can also be mixed with other biomaterials to fabricate your own novel bioink.

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Storage

The Alginate Kit should be stored at -20 degrees to four Celsius. The shelf life of Alginate Kit is six months. The valid expiration date is stated on the package.

Mixing with Cells

After the alginate has been reconstituted, mix with a high concentration of cells and bioprint or cast any structure desired.

Crosslinking

The reconstituted alginate is easy to crosslink with our CaCl₂-containing crosslinking solution. After bioprinting the alginate solution, apply enough droplets of crosslinking solution to cover the construct. A 30-second to 5-minute incubation is sufficient for most bioprinted structures. After incubation, remove the crosslinking solution, wash with PBS or basal cell-culture medium and replace with the desired cell-culture media.