

## Reconstitution Protocol

# Alginate Kit

*This is a suggested procedure, please adjust according to your experimental needs.*

### Protocol aim

The aim of this protocol is to provide instructions for reconstituting the Alginate powder. The reconstituted Alginate can be used for 3D bioprinting, 3D cell culture and casting applications.

### Material needed

- Alginate powder (100 mg), sterile\*
- Sterile PBS 1X (without calcium and magnesium), volume according to Table 1
- Sterile stir bar
- Sterile serological pipettes
- Sterile syringe

1

\*The product can be purchased in the CELLINK store at [www.cellink.com/store/](http://www.cellink.com/store/).

### Protocol

This protocol is described for mixing of 1 vial of Alginate.

Step	Title	Material	Description
1	Prepare PBS	- Sterile PBS	- Prepare 10 mL of PBS or your desired reconstitution solution.  Note: Examples of reconstitution solutions can be cell culture medium or mannitol solution.
2	Prepare Alginate solution	- Vial of Alginate - Reconstitution buffer - Sterile stir bar	- Use a sterile serological pipette to add the desired volume of the reconstitution solution to the vial of Alginate powder to achieve the desired concentration, see Table 1. - Add a sterile stir bar to the vial. - Stir solution overnight at room temperature to ensure dissolution.

3	Printing Alginate bioink	- Sterile syringe	- Recap or transfer to syringe for storage. - See the <i>Bioprinting Protocol CELLINK A</i> for an example of printing alginate with cells.
---	--------------------------	-------------------	--

Table 1. Suggestions of final Alginate concentrations for mixing one vial of 100 mg of Alginate.

Final Alginate Concentration Desired	Volume Reconstitution Solution Needed
1% (10 mg/mL)	10 mL
2% (20 mg/mL)	5 mL
3% (30 mg/mL)	3.33 mL
4% (40 mg/mL)	2.5 mL