# HOW TO PRINT WITH CELLINK A

***Overview***: Alginate is a naturally derived polysaccharide and has been utilized for diverse applications. This bioink is biocompatible, easy to use, and customizable. CELLINK A can be crosslinked using our crosslinking solution, $CaCl_2$.

***Materials***:
CELLINK bioprinter
CELLINK A cartridges
Pluronics or other sacrificial bioink cartridges (also can use CELLINK Support or CELLINK Start)
Conical nozzles
Printing surface, preferably positively charged

***Protocol***:

1. Mix a high concentration of cells into the CELLINK A solution using CELLINK's Cell Mixer. The Cell Mixer requires about 10 ml of CELLINK A and 1 ml of a high concentration of cells, creating a 10:1 ratio.
2. Attach both syringes to the cell mixer, and attach a 3 cc cartridge to the other end of the Cell Mixer with the piston loaded. Push down on the handle of the Cell Mixer to homogenously mix the two solutions into the 3 cc cartridge.
3. Screw on a sterile nozzle, we recommend using a 25 or 27 G nozzle.
4. Since CELLINK A prints a little runny, print with a sacrificial material in the second print head to help build up the CELLINK A structure. An example code is attached.
5. Once the print has finished, apply enough droplets of 100 μM calcium chloride solution to cover the construct. Crosslinking takes about 5 minutes. Wash with PBS to clear the crosslinking solution.

***G-codes***:
The following code uses both print heads, and 27G nozzles for both the alginate and the pluronics.
*V3_alginateinsidepluronics.gcode*

***Further Information:***
A variation of the CELLINK A bioink is CELLINK A RGD. CELLINK A-RGD Bioink is composed of high purity grade sodium alginate which is bio-functionalized with RGD motifs. CELLINK A-RGD is a

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biodegradable bioink and it offers excellent biocompatibility, easy handling, and works universally with a wide range of human cells. CELLINK A-RGD is simply cross-linked with divalent cations such as calcium. You can utilize any of our sacrificial bioinks such as CELLINK Support or CELLINK start when bioprinting with CELLINK A-RGD to create porous structures.

*CELLINK A Application Note*

***References:***

N/A

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