Product Data Sheet

Product Name	*3-D Life* Dextran-CD-HA Hydrogel

Catalog Number G96-1

Description

The *3-D Life* Dextran-CD-HA Hydrogel Kit provides reagents for setting up hydrogels containing hyaluronic acid. Its major components are SG-Dextran and the thiol-functionalized hyaluronic acid crosslinker CD-HyLink. When SG-Dextran and CD-HyLink are combined, thiol groups on CD-HyLink form stable thioether bonds with thiol-reactive groups on SG-Dextran, which results in the formation of the gel. The components are mixed at physiological pH (pH 7.2) for optimal cell compatibility. The slow gelation kinetics allows enough time to conveniently manipulate the solution before the onset of gel formation. CD-HyLink contains a matrix metalloproteinase (MMP)-cleavable peptide sequence (Pro-Leu-Gly-Leu-Trp-Ala), which is cleaved by a broad range of MMPs including MMP1, MMP2, MMP3, MMP7, MMP9 and MMP13 [1, 2, 3]. It allows cells to locally degrade the polymer network, if they produce the indicated MMPs.

The hydrogel allows cell spreading and migration if cell adhesion peptides are present in the gel.

Prior to the crosslinking step, cell adhesion peptides (e.g. *3-D Life* RGD Peptide, Cat. No. 09-P-001) can be covalently attached to a portion of the SH-reactive groups on SG-Dextran to provide a cell-adhesive matrix.

Note: Dextran hydrogels crosslinked with CD-HyLink cannot be dissolved by the addition of dextranase (*3-D Life* Dextranase, Cat. No. D10-1).

For more information and instructions, please consult the General Protocol GP-4B "Preparation of *3-D Life* Hyaluronic Acid (HA) Hydrogels containing a matrix metalloproteinase cleavage site" and the *3-D Life* Hydrogels User Guide on www.cellendes.com.

Quantity 1 Kit

Components

Material	Quantity	Concentration of reactive groups	Storage
SG-Dextran	170 µl	30 mmol/L thioreactive groups	Short term (≤2 months): 4°C Long Term: -80°C
CD-HyLink, freeze-dried	2x 200 µL	10 mmol/L* thiol groups	Lyophilisate and after reconstitution: -70°C
10x CB (pH 7.2)	200 µl	n.a.	Short term (≤2 months): 4°C Long term: -20°C or lower
Water	2x 1500 µl	n.a	Room temperature or lower

All materials are filter-sterilized.
*Volume/concentration after reconstitution of lyophilisate.

Continued on next page.

Cellendes GmbH
Gerhard-Kindler-Str. 8, 72770 Reutlingen, Germany
Tel.: +49 7121 15940 0
www.cellendes.com

Reconstitution

1. Briefly centrifuge vial containing CD-HyLink lyophilisate to make sure that the entire material is at the bottom of the reaction tube.
2. Add 188 µl *3-D Life* Water for a concentration of 10 mmol/L thiol groups.
3. Close tube and briefly vortex.
4. Incubate for 60 min at room temperature.
5. Briefly vortex and centrifuge again.
6. CD-HyLink is now ready for use.

Notes

After reconstitution, CD-HyLink is a viscous solution. Low binding pipet tips are recommended for accurate pipetting up to 20 µl. For volumes above 20 µl use wide orifice pipet tips.

References

[1] Knight, C. G. et al. FEBS 296:263-66 (1992) [2] Patterson, J. and Hubbell, J. A. Biomaterials 31, 7836-7845 (2010) [3] Deng, S. et al. J. Biol. Chem. 275, No. 40, 31422–31427 (2000)

Intended for research use only. Not for use in human therapeutic or diagnostic applications.

Cellendes GmbH
Gerhard-Kindler-Str. 8, 72770 Reutlingen, Germany
Tel.: +49 7121 15940 0
www.cellendes.com