

# Product Data Sheet

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

Catalog Number G93-1

## Description

The *3-D Life* Dextran-CD Hydrogel SG Kit provides reagents for setting up slow gelling, cell-compatible hydrogels. Its major components are SG-Dextran and the crosslinker CD-Link. When the two reagents are combined, thiol groups on CD-Link 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-Link 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.





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.

SG-Dextran hydrogels crosslinked with CD-Link can be dissolved by the addition of dextranase (*3-D Life* Dextranase, Cat. No. D10-1), which allows the recovery of chemically fixed or live cells for post-culture analyses (e.g. RT-PCR) or for further cultivation.

For instructions, please consult the General Protocol GP-2 "Preparation of *3-D Life* Slow Gelling Hydrogels" and the *3-D Life* Hydrogels User Guide on [www.cellendes.com](http://www.cellendes.com).

Quantity Allows formation of up to 2 ml *3-D Life* Hydrogel depending on the stiffness of the gel.

## Components

Material	Quantity	Concentration of reactive groups	Storage
 SG-Dextran	170 µl	30 mmol/L thioreactive groups	Short term ( $\leq 2$ months): 4°C Long Term: -80°C
 CD-Link, lyophilized	200 µl*	20 mmol/L* thiol groups	Lyophilisate and after reconstitution: -70°C to -80°C
 10x CB (pH 7.2)	200 µl	n.a.	Short term ( $\leq 2$ 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.

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Reconstitution

1. Briefly centrifuge vial containing CD-Link lyophilisate to make sure that the entire material is at the bottom of the reaction tube.
2. Add 188 µl *3-D Life* Water per tube for a concentration of 20 mmol/L thiol groups.
3. Close tube and briefly vortex.
4. Incubate for 5 min.
5. Briefly vortex and centrifuge again.
6. CD-Link is now ready for use.

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)

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