

Product Data Sheet



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

Catalog Number G91-1

Description The *3-D Life* Dextran-CD Hydrogel Kit provides reagents for setting up fast gelling, cell-compatible hydrogels. Its major components are maleimide-functionalized dextran (Mal-Dextran) and the crosslinker CD-Link. When the two reagents are combined, thiol groups on CD-Link form stable thioether bonds with maleimide groups on the Mal-Dextran, which results in the formation of the gel.

CD-Link is composed of polyethylene glycol and a matrix metalloprotease (MMP)-cleavable peptide (Pro-Leu-Gly-Leu-Trp-Ala). The MMP-cleavable peptide is designed for a broad range of MMP cleavage including MMPs MMP1, MMP3, MMP7 and MMP9 [1]. It allows cells to spread and migrate within the hydrogel if they express the indicated MMPs. In most cases cell spreading and migration also requires the presence of adhesion peptides.

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 maleimide groups of Mal-Dextran to provide a cell-adhesive matrix.

Dextran hydrogels 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-1 "Preparation of *3-D Life* Fast Gelling Hydrogels" and the *3-D Life* Hydrogels User Guide on www.cellendes.com.

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

Material	Quantity	Concentration of reactive groups	Storage
● Mal-Dextran [#] , lyophilized	170 µl*	30 mmol/L	Lyophilisate and after reconstitution: -80°C.
● CD-Link, lyophilized	200 µl*	20 mmol/L	Lyophilisate and after reconstitution: -20°C to -80°C
● 10 x CB (pH 7.2)	200 µl	n.a.	Short term (≤2 months): 4°C Long term: -20°C to -80°C
● 10 x CB (pH 5.5)	200 µl	n.a.	Short term (≤2 months): 4°C Long term: -20°C to -80°C
● Thioglycerol	180 µl	20 mmol/L	-20°C or lower
● Dextranase	500 µl	n.a.	Short term (≤6 months): 4°C Long term: -80°C (avoid frequent freeze-thawing)
○ Water	2x 1500 µl	n.a.	Room temperature or lower

All materials are filter-sterilized.

#Keep on ice while in use.

*Volume/concentration after reconstitution of lyophilisate.

Reconstitution Mal-Dextran:

1. Briefly centrifuge vial containing the lyophilized Mal-Dextran to make sure that the entire material is at the bottom of the centrifuge tube.
2. Add 175 μl 3-D Life Water for a concentration of 30 mmol/L maleimide groups.
3. Close tube and briefly vortex.
4. Place centrifuge tube on ice for 5 min.
5. Briefly vortex and centrifuge again.
6. Mal-Dextran is now ready for use. Keep on ice.

CD-Link:

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)

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