

# Product Data Sheet



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

Catalog Number G83-1

**Description** The *3-D Life* PVA-CD Hydrogel SG Kit provides reagents for setting up slow gelling, cell-compatible hydrogels. Its major components are polymeric SG-PVA 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-PVA, 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 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 cross-linking step, 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 of SG-PVA to provide a cell-adhesive matrix.

For more information and 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 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
● SG-PVA	170 µl	30 mmol/L	Short term (≤2 months): 4°C; Long Term: -80°C, avoid frequent freeze/thaw cycles
● 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
○ Water	2x 1500 µl	n.a	RT to -80°C

All materials are filter-sterilized.

\*Volume/concentration after reconstitution of lyophilisate.

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Reconstitution    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  $\mu$ l 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)

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