

# Product Data Sheet

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

Catalog Number G81-1

**Description** The *3-D Life* PVA-CD Hydrogel Kit provides reagents for setting up fast gelling, cell-compatible hydrogels. Its major components are polymeric Mal-PVA and the crosslinker CD-Link. When the two reagents are combined, thiol groups on CD-Link form stable thioether bonds with maleimide groups on Mal-PVA, 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, 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-PVA to provide a cell-adhesive matrix.

For more information and 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](http://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-PVA <sup>#</sup> | 170 µl     | 30 mmol/L                        | -80°C (avoid frequent freeze-thawing)                    |
| CD-Link, lyophilized | 200 µl*    | 20 mmol/L*                       | Lyophilisate and after reconstitution: -20°C to -80°C    |
| 10x CB (pH 5.5)      | 200 µl     | n.a                              | Short term (≤2 months): 4°C<br>Long term: -20°C to -80°C |
| 10x CB (pH 7.2)      | 200 µl     | n.a.                             | Short term (≤2 months): 4°C<br>Long term: -20°C or lower |
| Thioglycerol         | 180 µl     | 20 mmol/L                        | -20°C or lower   |
| Water                | 2x 1500 µl | n.a                              | Room temperature or lower                                |

All materials are filter-sterilized.

<sup>#</sup>Keep on ice while in use.

\*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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