

GrowDex® - Most Frequently Asked Questions

1. What is the composition of GrowDex?

GrowDex is made of nanocellulose fibers and water.

2. What needs to be done to form a gel with GrowDex?

GrowDex is ready-to-use and there is no polymerization, gelation or cross-linking steps needed. GrowDex forms a semi-solid gel naturally due to the interaction of nanocellulose fibers and water.

3. What does the shear thinning property of GrowDex mean?

When a shear force is applied to the gel (e.g. pipetting, squeezing it out of a syringe) the gel temporarily becomes liquid. Immediately when the shear force is stopped, GrowDex returns back to the gel form.

4. What is the optimal GrowDex concentration and cell seeding density?

The optimal concentration and cell seeding density are dependent on the cell type. We recommend optimizing both for your assays. Take a look at our application notes for further information.

5. Can the cells be stained and imaged in GrowDex?

Yes. Different microscopy techniques, such as light microscopy, fluorescence microscopy and confocal microscopy have been successfully used with GrowDex. GrowDex is not auto-fluorescent, and antibody stains diffuse through GrowDex.

6. How the cells can be harvested from GrowDex?

Cells can be isolated using GrowDase™ cellulase enzyme. GrowDase degrades nanocellulose fibers to soluble glucose and the gel structure breaks down for easy and gently for cell recovery. As neither human or animal cells contain cellulose GrowDase does not affect them, and the grown cell structures can be retained.

7. Are cells able to migrate in GrowDex?

Yes. It has been demonstrated using live microscopy that cells, e.g. mesenchymal stem cells and fibroblasts, are able to migrate in GrowDex. Nanocellulose fibers in GrowDex are not covalently cross-linked and are able to move.

8. GrowDex is completely animal free. BME matrices (e.g. Matrigel) have components in them that I would like have in the culture. Can I add them to GrowDex?

Yes, growth factors and proteins can be added to GrowDex. With GrowDex you have better control of the culture conditions adding what you need when you need it. Thus you can easily repeat experiment with defined conditions and consistent results.

9. Does GrowDex have lot-to-lot variation? How do you control this?

No. Several physicochemical properties, microbiological purity, and standardized cell culture performance are analysed for each lot. This way we can guarantee that cells behave the same way with each lot of product we manufacture.

10. How should GrowDex be stored and how long it is stable?

GrowDex can be stored at room temperature and has a shelf life of 12 months. Once opened, it is recommended that GrowDex is stored in the fridge for a maximum of 3 months to minimize the risk of microbial contamination.