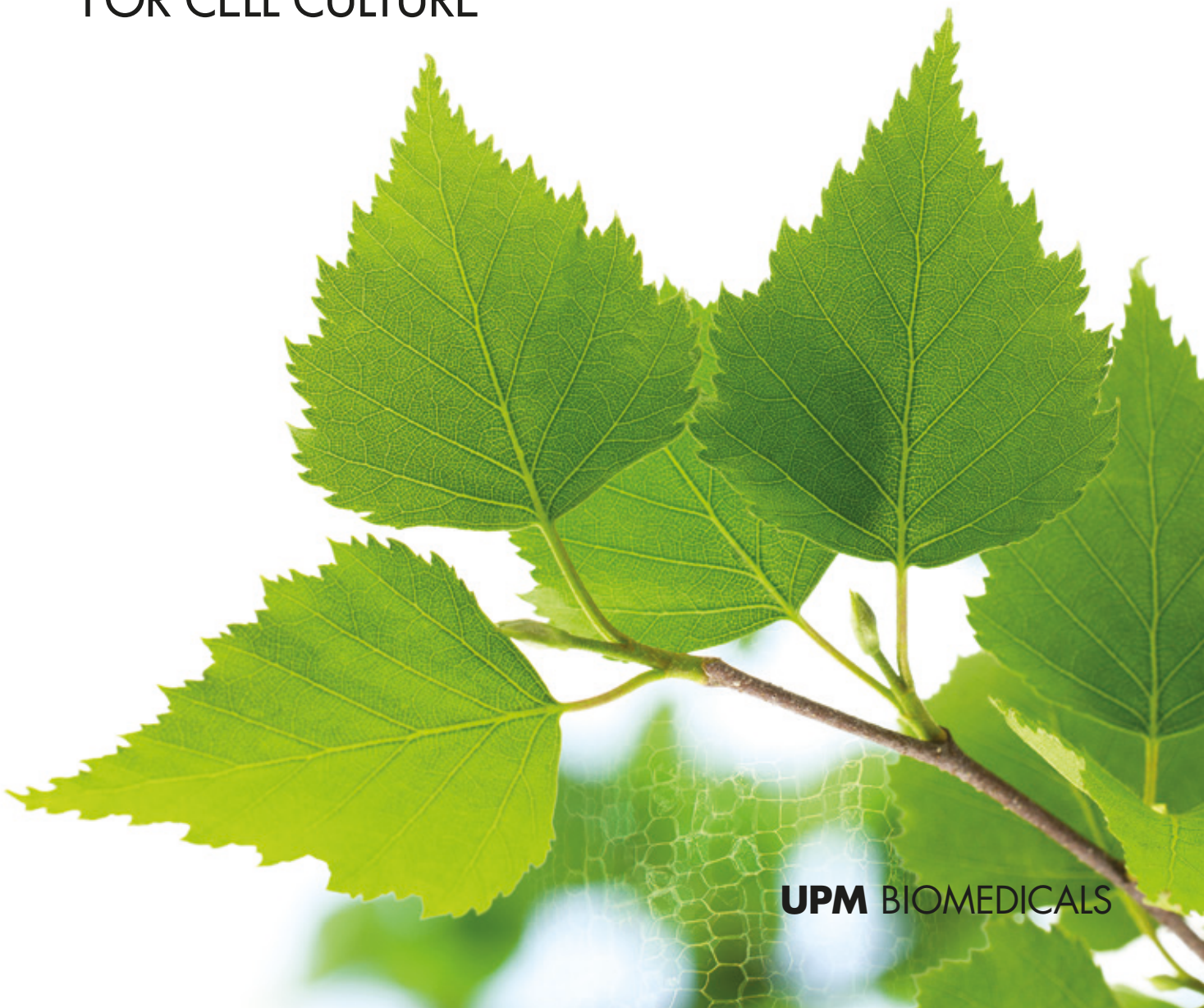


GrowDex[®]

THE NATURAL CHOICE
FOR CELL CULTURE



UPM BIOMEDICALS

GrowDex[®]

Nature's solution – a bio-friendly hydrogel extracted from birch and sourced from sustainable and responsibly managed forests. GrowDex[®] is a ready to use hydrogel that mimics the extracellular matrix (ECM), supporting cell growth and differentiation with consistent results. The versatility of GrowDex has seen it used in numerous applications ranging from: 3D cell culture and organ-on-a-chip models, through to drug release studies and 3D printing. GrowDex is ideal for these and other applications due to its unique properties:



ANIMAL FREE

Xeno-free with no detectable endotoxins, GrowDex is pH neutral and supplied in a user friendly syringe for convenience and ease of use.



REPRODUCIBLE LOTS

Raw material supply, production procedures and quality control checks, to ensure that GrowDex is manufactured reproducibly to the highest standards.



READY TO USE

GrowDex truly is a ready-to-use hydrogel. No cross-linking, no gelation, no sonication or any other steps required prior to use. Just mix with your media and cells, dispense and incubate.



TUNABLE VISCOSITY

The viscosity "stiffness" of GrowDex can be tuned by dilution with media. As different cell types thrive in different micro-environments, determining the optimum conditions for your cells is imperative. Being ready to use, dilution curves with GrowDex are quick and easy to prepare.



BIOCOMPATIBLE

The biocompatible nanofibrillar network allows easy diffusion of small molecules such as nutrients and oxygen supporting the culture of various cell types.



ONE-STEP CELL RECOVERY

GrowDase enzyme allows easy recovery of cells, spheroids or other sample from GrowDex without disrupting or destroying the structure.



MICROSCOPE & IMAGING COMPATIBLE

GrowDex is not auto-fluorescent, is compatible with microscope and cell imaging systems and can be used for brightfield, phase contrast or fluorescence image capture.



ROOM TEMPERATURE STABLE

Stored, shipped and used at room temperature, this stable hydrogel eliminates the need for temperature control, costly transportation and is ideal for use in liquid handling system for the automation of any cell-based assay.



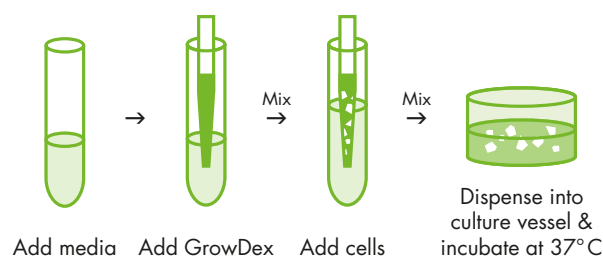
Culture your cells with confidence

Being a completely xeno-free hydrogel, GrowDex enables you to have complete control over the culture environment for your cells. This flexibility has enabled GrowDex to be used in a wide variety of assays culturing cells from many different sources, such as primary hepatocytes for *in vitro* drug screening or patient derived cells in a personalized medicine study. Other examples include:

- 3D organoid formation
- Hepatocyte toxicity, induction and metabolism
- Stem cell proliferation and differentiation, ES, iPS & MSCs
- Tumor cell migration and invasion
- Neurite outgrowth and network formation
- Patient specific cells and biopsies
- Human corneal cells
- Lung adenocarcinoma
- Osteoblast and chondrocyte
- Melanoma
- Co-culture of various cell types
- Regenerative medicine and tissue engineering

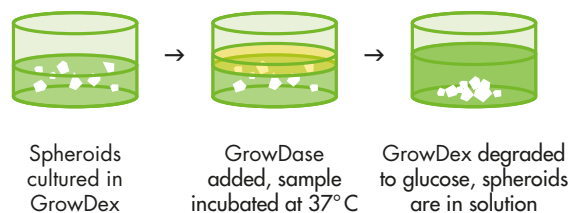
Mix & use

Ready to use GrowDex makes cell culture simple.
Just mix media, cells and GrowDex together and dispense.
What could be easier!



Harvest your cells

Recovering your cells or organoids post culture is a one step process. Add our GrowDase™ enzyme to your culture and incubate at 37°C. The enzyme digests the GrowDex leaving your cells in solution for re-plating or downstream processing



Ordering information

Visit our webshop at www.growdex.com or contact us at growdex.sales@upm.com.

CATALOGUE CODE	DESCRIPTION
100 103 005	GrowDex® 5 ml syringe
100 103 010	GrowDex® 10 ml syringe
100 103 305	Multi-pack GrowDex® 3 x 5 ml syringe
100 103 905	GrowDex® 5 ml syringe + GrowDase™ 2.5 ml Combo pack
900 102 002	GrowDase™ 2.5 ml, 10 mg/ml

Not just for cell culture

GrowDex is not limited to 2D and 3D plate-based assays, but it has been used successfully in a number of other areas. Here are a few examples to give you an insight:

Organ-on-a-Chip Models

The thixotropic nature of GrowDex allows the hydrogel to be dispensed into the channels of a microfluidic device. GrowDex is able to retain its structure once in place making it ideal for use with organ-on-a-chip models.

Drug Delivery Vehicle

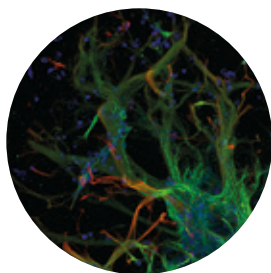
The biocompatible hydrogel can be mixed with test drug for use in drug release studies.

Cell Barrier

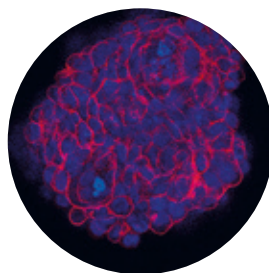
GrowDex at high concentration can be used to form a barrier preventing cell migration but allowing nutrient, drug or metabolite diffusion.

3D Printing

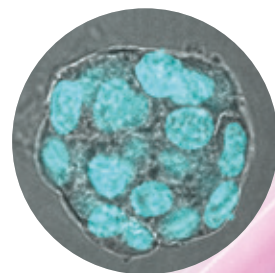
The interest in 3D printing, especially in regenerative medicine, has called for a reliable raw material with reproducible batch quality. GrowDex has both the physical qualities and supply credentials to support this rapidly growing area.



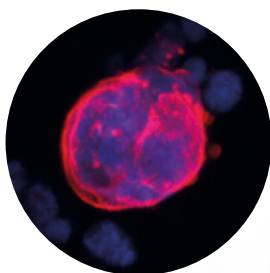
Human embryonic stem cell (hESC) derived neuronal cells
Biomeditech, Finland



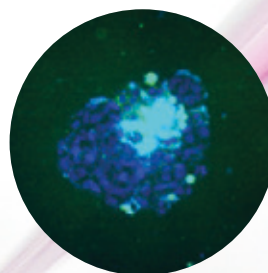
HCE-T Human corneal epithelial cells
Experimentica, Finland



HepG2 spheroid
University of Helsinki, Finland



Co-culture human primary hepatocytes and Kupffer cells
Admescope, Finland



MDA-MB231 (breast cancer) and NIH3T3 (fibroblasts) co-culture
Mahatma Gandhi-Doerenkamp Center, India



Innovation with care
Automation-friendly
Tumor cells
fast set up
Transparent
Primary cell
Biofore
Natural
Recover cells
Innovative
Animal free
Sustainable
3D cell studies
Responsible
Eco-friendly
Renewable
Hydrogel
Dilute and use
Reproducible
Biocompatible
Advanced
Room-temperature
Sterile
Tunable
Ready-to-use
Natural
Simple protocols
Regenerative medicine

Austria

VWR International GmbH
 Graumannsgasse 7
 1150 Wien
 Tel.: +43 1 97 002 0
 Email: info.at@vwr.com

Belgium

VWR International bvba
 Researchpark Haasrode 2020
 Geldenaaksebaan 464
 3001 Leuven
 Tel.: +32 (0) 16 385 011
 Email: vwr.be@vwr.com

Czech Republic

VWR International s. r. o.
 Veetee Business Park
 Pražská 442
 CZ - 281 67 Strážná Skalce
 Tel.: +420 321 570 321
 Email: info.cz@vwr.com

Denmark

VWR International A/S
 Tobaksvejen 21
 2860 Søborg
 Tel.: +45 43 86 87 88
 Email: info.dk@vwr.com

Finland

VWR International Oy
 Valimotie 9
 00380 Helsinki
 Tel.: +358 (0) 9 80 45 51
 Email: info.fi@vwr.com

France

VWR International S.A.S.
 Le Périgares – Bâtiment B
 201, rue Carnot
 94126 Fontenay-sous-Bois cedex
 Tel.: 0 825 02 30 30* (national)
 Tel.: +33 (0) 1 45 14 85 00
 (international)
 Email: info.fr@vwr.com
 * 0,18 € TTC/min

Germany

VWR International GmbH
 Hilpertstraße 20a
 D - 64295 Darmstadt
 Tel.: 0800 702 00 07* (national)
 Tel.: +49 (0) 6151 3972 0
 (international)
 Email: info.de@vwr.com
 *Freecall

Hungary

VWR International Kft.
 Simon László u. 4.
 4034 Debrecen
 Tel.: +36 52 521130
 Email: info.hu@vwr.com

Ireland/Northern Ireland

VWR International Ltd/VWR
 International (Northern Ireland) Ltd
 Orion Business Campus
 Northwest Business Park
 Ballycoolin
 Dublin 15
 Tel.: +353 (0) 1 88 22 222
 Email: sales.ie@vwr.com

Italy

VWR International S.r.l.
 Via San Giusto 85
 20153 Milano (MI)
 Tel.: +39 02 3320311
 Email: info.it@vwr.com

The Netherlands

VWR International B.V.
 Postbus 8198
 1005 AD Amsterdam
 Tel.: +31 (0) 20 4808 400
 Email: info.nl@vwr.com

Norway

VWR International AS
 Haavard Martinsens vei 30
 0978 Oslo
 Tel.: +47 22 90 00 00
 Email: info.no@vwr.com

Poland

VWR International Sp. z o.o.
 Limbowa 5
 80-175 Gdansk
 Tel.: +48 58 32 38 200
 Email: info.pl@vwr.com

Portugal

VWR International – Material de
 Laboratório, Lda
 Centro Empresarial de Alfragide
 Rua da Indústria, nº 6
 2610-088 Amadora
 Tel.: +351 21 3600 770
 Email: info.pt@vwr.com

Spain

VWR International Eurolab S.L.
 C/Tecnología 5-17
 A-7 Llinars Park
 08450 - Llinars del Vallès
 Barcelona
 Tel.: +34 902 222 897
 Email: info.es@vwr.com

Sweden

VWR International AB
 Fagerstagatan 18a
 163 94 Stockholm
 Tel.: +46 (0) 8 621 34 00
 Email: kundservice.se@vwr.com

Switzerland

VWR International GmbH
 Lerzenstrasse 16/18
 8953 Dietikon
 Tel.: +41 (0) 44 745 13 13
 Email: info.ch@vwr.com

UK

VWR International Ltd
 Customer Service Centre
 Hunter Boulevard – Magna Park
 Lutterworth
 Leicestershire
 LE17 4XN
 Tel.: +44 (0) 800 22 33 44
 Email: uksales@vwr.com

India

VWR Lab Products Private Limited
 No.139, BDA Industrial Suburb,
 6th Main, Tumkur Road, Peenya Post,
 Bangalore, India – 560058
 Tel.: +91 80 28078400
 Email: vwr_india@vwr.com

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