# Order form for screenMATRIX

denovoMATRIX | enabling human biology in vitro

**We hereby order for delivery to** (recipient of the delivery):

Company/University: _____

Last name, first name: _____

St., house no.: _____

ZIP, city, country: _____

E-Mail: _____

Tel. no. for queries: _____

**The invoice will be sent to** (invoice address if different from delivery address):

Company/University: _____

Last name, first name: _____

St., house no.: _____

ZIP, city, country: _____

**Your order:**
Please note the desired number of 1, 3 or 5 packs of screenMATRIX behind your preferred pack size.

| screenMATRIX | price per unit | number of packs |
|---|---|---|
| pack of 1 | 150,00 € | |
| pack of 3 | 300,00 € | |
| pack of 5 | 450,00 € | |

All prices are exclusive of statutory VAT and plus shipping costs.

_____ _____

PLACE, DATE SIGNATURE

**denovoMATRIX GmbH**
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Fax: +49 (0)351 463 403 22
sales@denovomatrix.com
www.denovomatrix.com

Registered at the Dresden Register Court No. HRB 38154
Managing Director: Dejan Husman
Bank account details : Commerzbank
IBAN: DE36 8504 0000 0111 7779 00, BIC: COBADEFFXXX

INSTRUCTIONS FOR USE

denovo MATRIX

ENABLING HUMAN BIOLOGY IN VITRO

# screenMATRIX

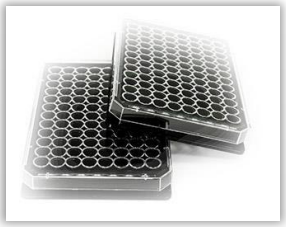
BIOMATRICES FOR CELL CULTURE

denovoMATRIX develops and manufactures biomatrix coatings that enable the culture of a wide variety of primary, stem and established cell lines. *in vivo,* extracellular matrix (ECM) molecules surround individual cells, with essential roles in regulation of cellular functions such as adhesion, differentiation, migration, phenotype, organization and structure. denovoMATRIX' screenMATRIX coatings are chemically defined and recapitulate these major functions of the natural ECM, making cell culture easy, robust, and biologically relevant.

## IMPORTANT NOTES

- Always use aseptic techniques such as laminar flow hood and sterilized equipment
- Take care not to scratch the surface of screenMATRIX plates when pipetting – this can potentially result in cells exposed to the tissue culture plastic
- screenMATRIX plates are stable for 6 months at room temperature and up to 2 years at 4°C

## CELL SEEDING PROTOCOL



1. Calculate how many cells you need for the experiment.
   - We provide our coatings in 96 format with growth areas of 0,34 $cm^2$ per well.
2. Detach cells already in culture, wash and count.
   - Cells already in culture will typically have higher survival rates than freshly thawed cells.
3. Unpack your screenMATRIX plates.
4. Seed your cells at the desired density and incubate.
   - Add at least 100 µL and up to 200 µL of media in each well.
   - It's not necessary to incubate screenMATRIX plates with media before adding cells. Simply add at the same time and incubate at 37°C and 5% $CO_2$.
   - We recommend adding cells to three plates to achieve a technical replicate of 3.
5. Analyze your cells.
   - screenMATRIX plates are optimal for microscopic examinations (phase contrast as well as fluorescence), well suitable for colorimetric assays as well as standard DNA/RNA and protein isolation protocols and compatible with automated systems.

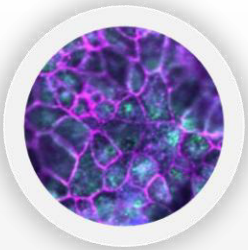
INSTRUCTIONS FOR USE

The screenMATRIX is assembled using the glycosaminoglycan sugars (GAGs) dextran sulfate, heparin, chondroitin and dermatan. With the exception of the synthetic dextran sulfate, these molecules are naturally present in the extracellular matrix (ECM), and have important roles in signaling as well as growth factor binding. In addition to the GAGs, peptides which mimic various ECM proteins are also included in the screenMATRIX. Peptides which recapitulate important ECM adhesion proteins such as fibronectin, vitronectin, laminin and collagen are incorporated. In addition, peptides which mimic signaling proteins such as bone morphogenic protein, fibroblast growth factor and transforming growth factor (among others) are also integrated.

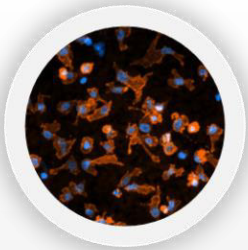
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dextran | A | FGF peptide + RGD | Fibronectin peptide | RGD | laminin peptide 1 | laminin peptide 2 | laminin peptide 3 | laminin peptide 4 | laminin peptide 5 | laminin peptide 6 | laminin pep.7 + RGD | Vitronectin peptide + RGD | Collagen 1 peptide |
| | B | Vitronectin peptide | Bone sialoprotein pep. | Osteocalcin peptide | Osteopontin peptide | BMP-2 peptide + RGD | E-Cadherin peptide | Tenascin peptide 1 | Tenascin peptide 2 | Perlecan peptide + RGD | TGF peptide | NCAM peptide | Collagen IV peptide |
| Heparin | C | FGF peptide + RGD | Fibronectin peptide | RGD | laminin peptide 1 | laminin peptide 2 | laminin peptide 3 | laminin peptide 4 | laminin peptide 5 | laminin peptide 6 | laminin pep.7 + RGD | Vitronectin peptide + RGD | Collagen 1 peptide |
| | D | Vitronectin peptide | Bone sialoprotein pep. | Osteocalcin peptide | Osteopontin peptide | BMP-2 peptide + RGD | E-Cadherin peptide | Tenascin peptide 1 | Tenascin peptide 2 | Perlecan peptide + RGD | TGF peptide | NCAM peptide | Collagen IV peptide |
| Chondroitin | E | FGF peptide + RGD | Fibronectin peptide | RGD | laminin peptide 1 | laminin peptide 2 | laminin peptide 3 | laminin peptide 4 | laminin peptide 5 | laminin peptide 6 | laminin pep.7 + RGD | Vitronectin peptide + RGD | Collagen 1 peptide |
| | F | Vitronectin peptide | Bone sialoprotein pep. | Osteocalcin peptide | Osteopontin peptide | BMP-2 peptide + RGD | E-Cadherin peptide | Tenascin peptide 1 | Tenascin peptide 2 | Perlecan peptide + RGD | TGF peptide | NCAM peptide | Collagen IV peptide |
| Dermatan | G | FGF peptide + RGD | Fibronectin peptide | RGD | laminin peptide 1 | laminin peptide 2 | laminin peptide 3 | laminin peptide 4 | laminin peptide 5 | laminin peptide 6 | laminin pep.7 + RGD | Vitronectin peptide + RGD | Collagen 1 peptide |
| | H | Vitronectin peptide | Bone sialoprotein pep. | Osteocalcin peptide | Osteopontin peptide | BMP-2 peptide + RGD | E-Cadherin peptide | Tenascin peptide 1 | Tenascin peptide 2 | Perlecan peptide + RGD | TGF peptide | NCAM peptide | Collagen IV peptide |

**denovoMATRIX' tested cell lines**

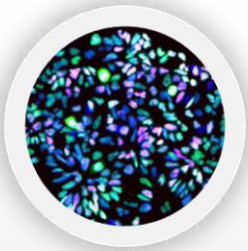
**Can you find your cells here? Check out our website for more examples of cell types tested with denovoMATRIX biomatrices.**



Retinal pigment epithelial cells

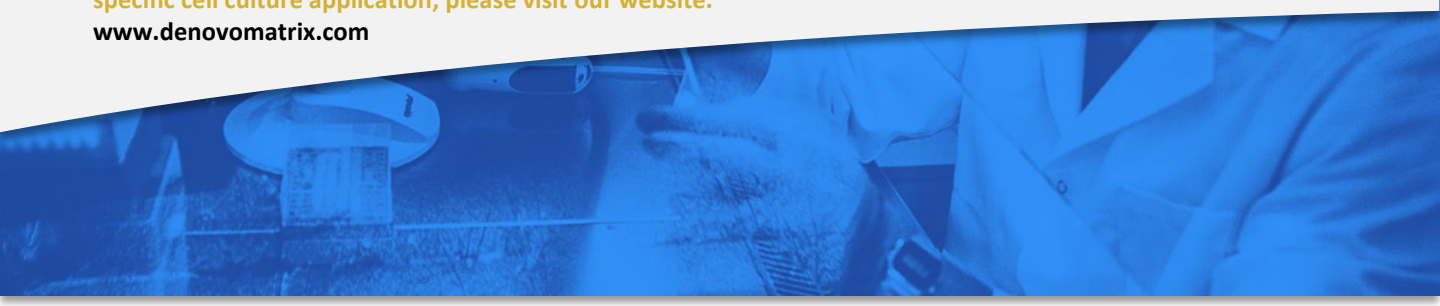


HeLa



iPS-derived neurons

**For more information about how our biomatrices can be used for your specific cell culture application, please visit our website.**
**www.denovomatrix.com**



Keep in touch!
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**denovoMATRIX – ENABLING HUMAN BIOLOGY IN VITRO**

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# MATERIAL SAFETY DATA SHEET

Prepared according to the EEC-Regulation 91/155/EEC Issue date: 26/06/2019

Product name: screenMATRIX
Product No(s): S1001

## SECTION 1: PRODUCT IDENTIFICATION

Extracellular matrix mimetic material was coated in each well of the 96 well plate. The product would enable the researcher, to identify the optimal substrate for the cell assay of choice. The plate has a glass like clear bottom to enable high quality microscopic evaluation.

## SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

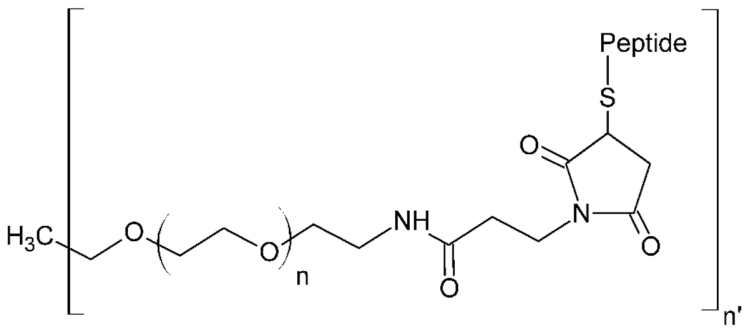
Ingredients: The product is prepared by coating the mimetic material, which is an optimized mixture of glycosaminoglycans and peptide-PEG conjugate in 96 well plate are listed below:

1. Cell culture 96 well plate, made of polystyrene has a lid with condensation rings and sterile.
2. The glycosaminoglycans are:

| | |
|---|---|
| Dextran sulfate | CAS No.: 9011-18-1 |
| Heparin | CAS No.: 9041-08-1 |
| Chondroitin A | CAS No.: 39455-18-0 |
| Chondroitin B | CAS No.: 54328-33-5 |

3. The peptide-PEG conjugates contain peptide sequences were synthesized and purified. The PEG (CAS No.: 25322-68-3). The average molecular weight of the peptide-PEG peptide conjugates is ~ 21,000 Da.

Chemical Structure:




HAZARDOUS: Contains no substance classified as hazardous in concentrations, which should be taken into account according to Regulation (EC) No 1272/2008 directives.

## SECTION 3: HAZARDS IDENTIFICATION

This product does not present any particular risk, provided it is handled in accordance with good safety practice. As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substances. In the case of accidental exposure, ensure prompt removal from skin, eyes and clothing.

## SECTION 4: FIRST AID MEASURES

ROUTE OF EXPOSURE

| | |
|---|---|
| Inhalation | : Not anticipated under recommended usage conditions. After inhalation of decomposed products, remove the affected person to a source of fresh air and keep calm. Provide medical aid. |
| Ingestion | : Not anticipated under recommended usage conditions. |
| Skin contact | : Not anticipated under recommended usage conditions. Areas affected by molten material should be quickly placed under cold running water |
| Eye contact | : Not anticipated under recommended usage conditions. In case of contact with decomposed products, flush eyes with plenty of water. Get medical advice if irritation develops. |

Note to physician: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

## SECTION 5: FIRE FIGHTING MEASURES

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Nature of decomposition products are not known.

| | |
|---|---|
| Suitable extinguishing media: | Water, dry extinguishing media, foam |
| Specific hazards: | Principal toxicant in the smoke is carbon dioxide, carbon monoxide. |
| Special protective equipment: | For firefighters: wear suitable breathing equipment, in case of risk of exposure to vapor or fumes. |
| Further information: | Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. |

## SECTION 6: ACCIDENTAL RELEASE MEASURES

Suck or sweep up any spills from liquids added to the test plates. All spilled material must be removed immediately to prevent slipping accidents. Dispose waste in accordance with local or national regulations. Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment.

Solid Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

Liquid Spills: Absorb with vermiculite, dry sand, earth or similar material and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

## SECTION 7: HANDLING AND STORAGE

Protect against moisture. Protect against physical damage. Do not freeze either. Do not autoclave. To prevent fire related hazards protect the product from heat and fire. Keep the product unopened, sealed away from light for long time storage.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Observe the appropriate Maximum Concentrations at the Workplace - MAK value and the Technical Rules for Hazardous Substances TRGS 900. Wear appropriate personal protective equipment and safety glasses for eye protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Form | : Black 96 well cell culture plate, clear bottom, clear lid |
| Coating Color | : Colorless and clear |
| Odor | : Faint |
| Softening temperature | : > 60 °C (DIN/EN/ISO 306:2013) |
| Ignition temperature | : > 400 °C |

## SECTION 10: STABILITY AND REACTIVITY

The product is prepared using a stable thermoplastic, with no chemical reactivity.

Stability : Stable under ordinary conditions of use and storage. Thermal decomposition may occur above 60 °c. In order to avoid thermal decomposition, do not heat.

| | |
|---|---|
| Hazardous decomposition products | : Carbon dioxide and carbon monoxide may form when heated due to decomposition. |
| Hazardous polymerization | : not tested |
| Incompatibilities | : Incompatible with polymerization catalysts (peroxides, persulfates) and accelerators, strong oxidizers, strong bases and strong acids. |
| Conditions to avoid | : Incompatibles and heat |

## SECTION 11: TOXICOLOGICAL INFORMATION

For this product a chemical safety assessment was not carried out. However, the product is not classified as dangerous preparation according to Directive 1999/45/EC. The toxicity of the individual components used for the coating are described in the following text. The oral rat LD50 polyethylene glycol used in the coating is 31.6 g/kg. The oral rat LD50 of dextran sulfate used in the coating is 20.6 mg/kg (comments: acute toxicity, behavior – somnolence, ataxia and diarrhea). Heparin used in the coating is harmful if ingested. No data is available regarding the toxicity of Chondroitin A and Chondroitin B.

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, if used as intended.

## SECTION 12: ECOLOGICAL INFORMATION

Environmental fate: No information
Environmental toxicity: No information

## SECTION 13: DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. Do not discharge the product or any contents into the environment. Dispose of container and unused contents in accordance with federal, state and local requirements.

## SECTION 14: TRANSPORT INFORMATION

No restrictions for transport (ADR/RID, IMDG or ICAO/ATA)

## SECTION 15: REGULATORY INFORMATION

Not classified under the Annex I, Directive 67/548/EEC as dangerous substances
Not classified under the Directive 1999/45/EC as dangerous preparations.
Contains no REACH substances with Annex XVII restrictions.
Contains no substances on the REACH candidate list.
Contains no REACH Annex XIV substances.

## SECTION 16: OTHER INFORMATION

The product is intended for research purposes only as a laboratory consumable for cell culture. The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. The information contained herein is provided in good faith and is as accurate as possible, but makes no representation as to its comprehensiveness or accuracy. However, neither denovoMATRIX, TU Dresden nor any other supplier of the products assumes any liability what so ever for the accuracy or completeness of the information contained herein. The provided information relates only to the designated material and is not valid for any other materials resulting as a modification or combination or any material or processes, not specified in this text.

This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Recipients of our product must take responsibility for observing existing laws and regulations. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that this is the entire list of possible endangering that might arise. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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