

## CONSISTENT REAGENTS FOR CONSISTENT CULTURES

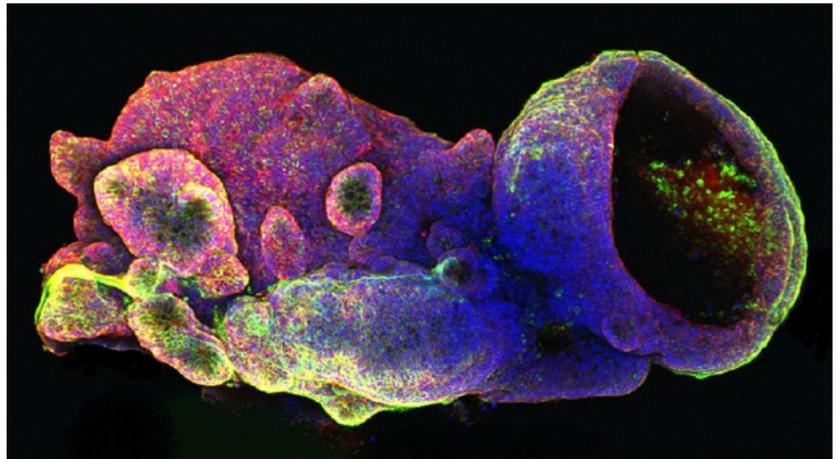
Organoids and 3D cell cultures are emerging as pivotal systems for understanding human organ development, modeling disease, screening for drug efficacy or toxicity, and personalized medicine. The reagents and protocols needed to culture these advanced multi-cellular *in vitro* tissues vary by organ, species, and whether they are being generated from tissue or pluripotent stem cells.

At Bio-Techne we are proud to offer a portfolio of research tools that you can trust for your organoid cultures.

## INTRODUCING NEW CULTREX ULTIMATRIX RGF BME

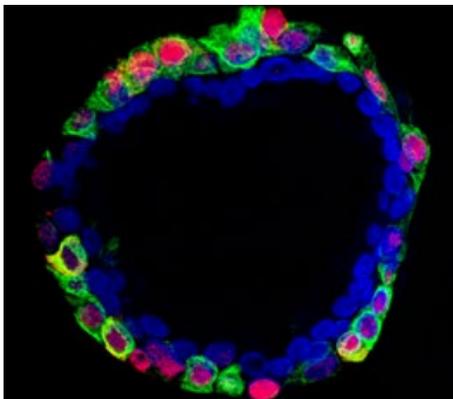
An advanced basement membrane extract (BME) with high tensile strength, elevated and enhanced protein composition ensuring efficacy in organoid cell culture, induced pluripotent stem cell expansion and differentiation, spheroid formation, and other 2D and 3D culture applications.

[LEARN MORE](#)

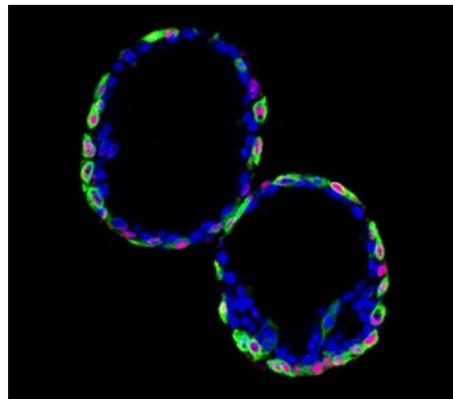


## HUMAN LUNG ORGANOID GROWN IN CULTURE USING BIO-TECHNE REAGENTS AND IN HOUSE VALIDATED PROTOCOL.

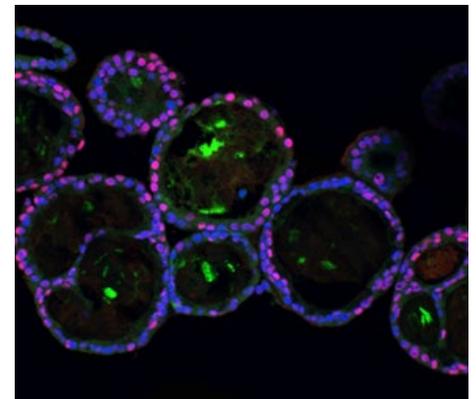
A.



B.



C.



## HUMAN LUNG ORGANOID

Adult stem cells isolated from human lung biopsy tissue were embedded in [Cultrex UltiMatrix RGF BME](#) (R&D Systems, Catalog # BME001) and cultured in media for 20-60 days. Lung organoids were able to differentiate and exhibit markers for various cell types of the lung. A) Lung organoids were stained with anti-Cytokeratin 5 (KRT5) (green; Novus, Catalog # NB110-56916) and with anti-p63/TP73L (red; R&D Systems, Catalog # AF1916) to visualize basal cells. B) Lung organoids were stained with anti-Podoplanin (PDPN) (green; Novus, Catalog # NB600-1015) to visualize alveolar type I cells. C) Lung organoids were stained with anti-MUC5AC (green; Novus, Catalog # NBP2-15196) to visualize Goblet cells and for SOX2 (red; R&D Systems, Catalog # MAB2018). All samples were counterstained with the nuclear stain DAPI (blue; Tocris, Catalog # 5748).

# DISCOVER OUR RANGE OF OFFERINGS FOR LUNG ORGANOID

## CYTOKINES AND GROWTH FACTORS

ACTIVIN A

FGF BASIC

FGF-4



## MEDIA SUPPLEMENTS

N-2 MAX SUPPLEMENT Similar to N-2

N21-MAX SUPPLEMENT Similar to B27 Supplement

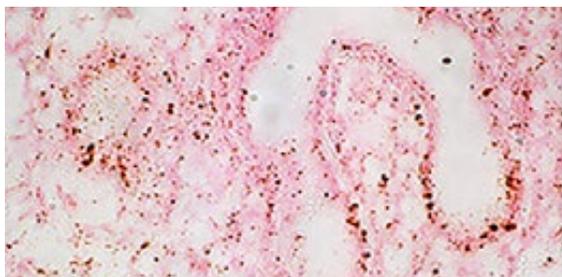
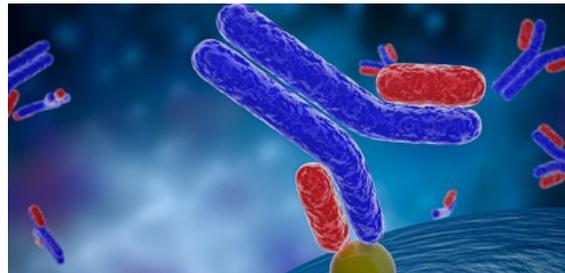
ORGANOID HARVESTING SOLUTION

## ANTIBODIES

NKX2.1 Lung lineage marker

ID2 Lung progenitor marker

LGR5/GPR49 Lung stem cells



## RNASCOPE *IN SITU* HYBRIDIZATION

ID2

LGR5/GPR49

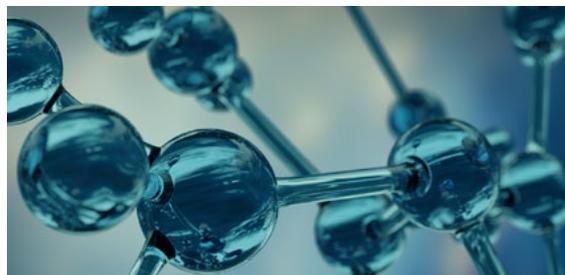
SOX9

## SMALL MOLECULES

CHIR 99021

SB 431542

SEE ALL GSK-3 INHIBITORS



Further details | [rndsystems.com/products/organoid-and-3d-culture-reagents](https://rndsystems.com/products/organoid-and-3d-culture-reagents)

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**R&D SYSTEMS**

**NOVUS**  
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