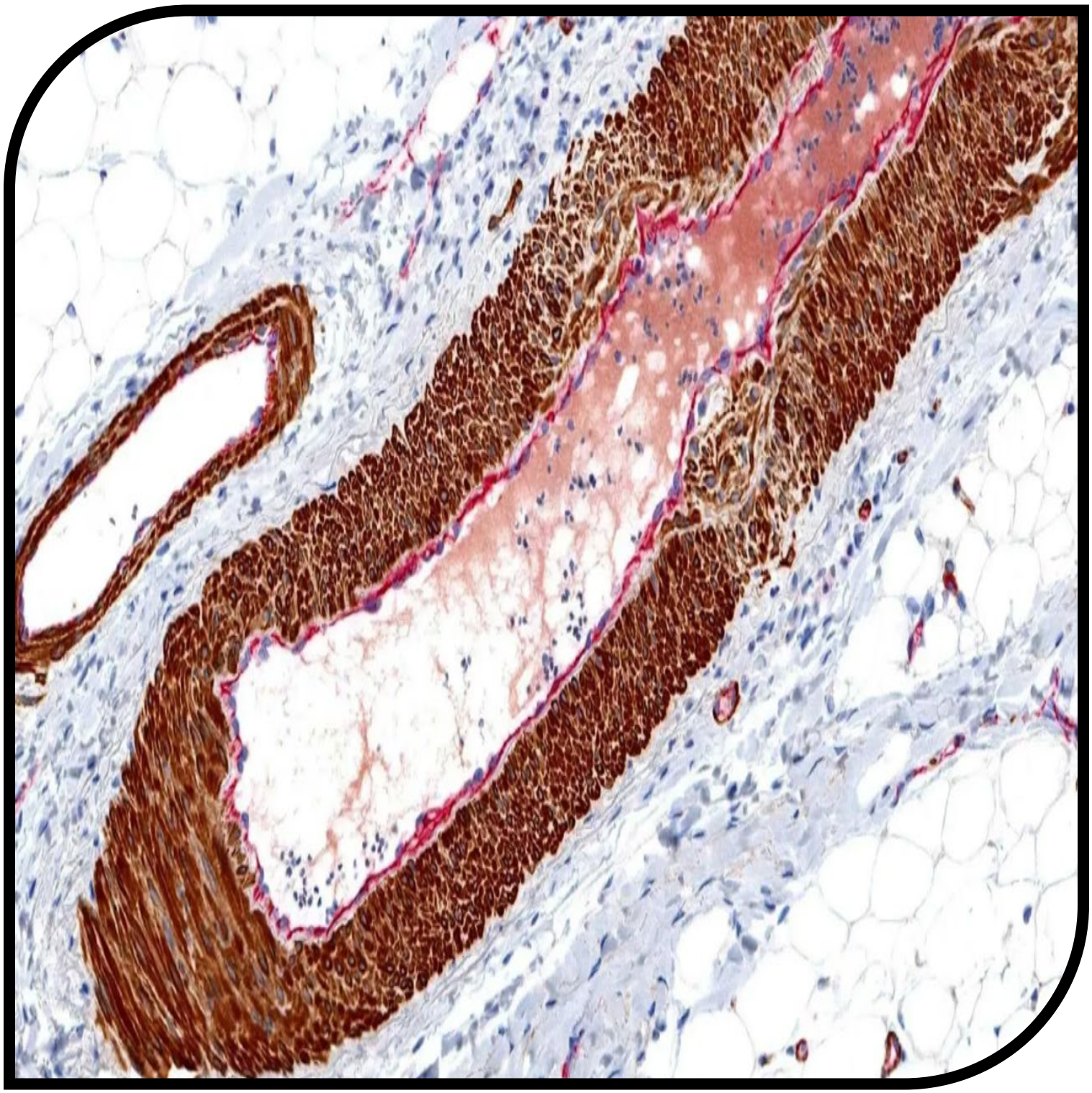
Imaging
All*Stars

A Gallery of 50 Exemplary Imaging Results

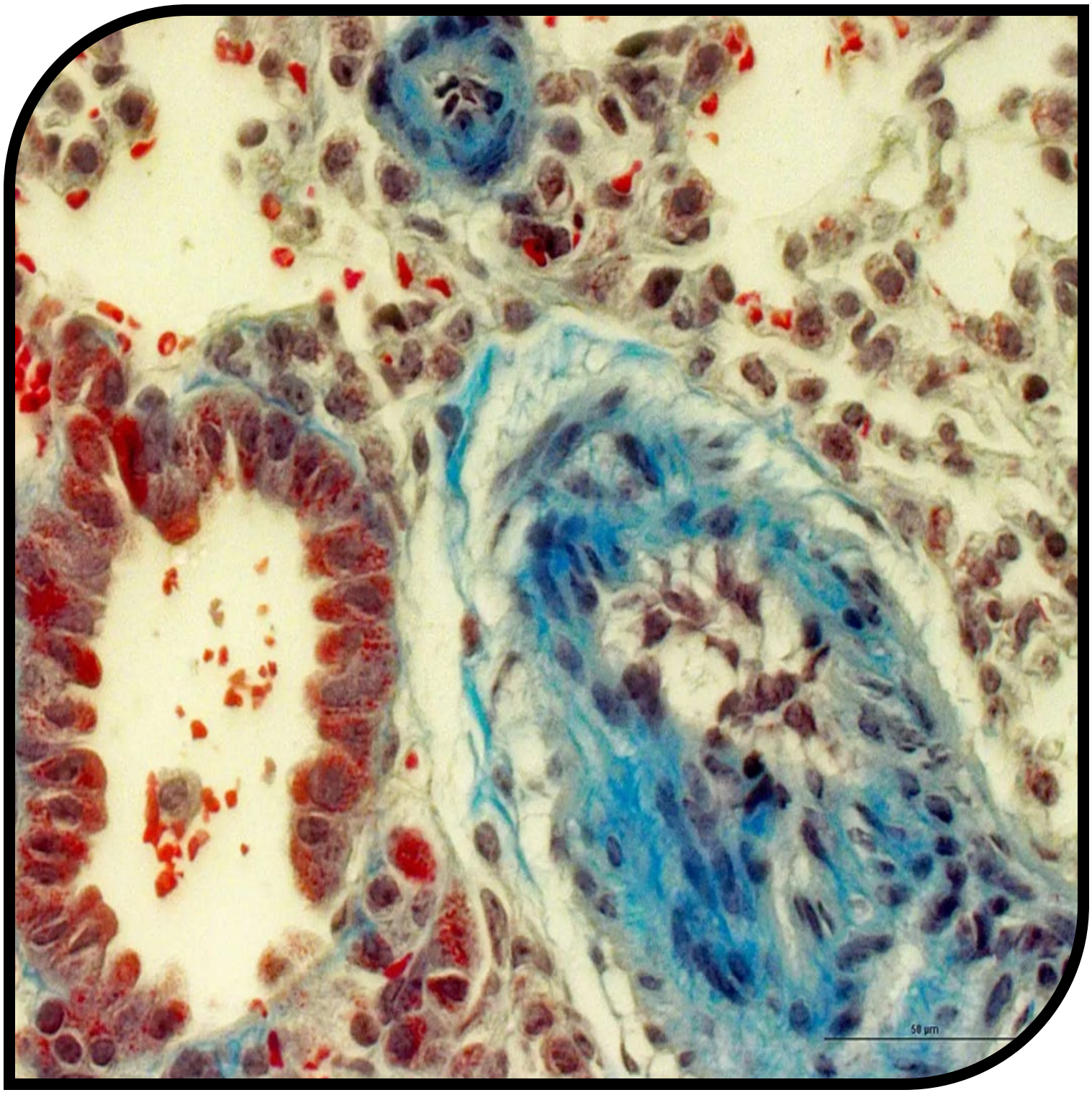
A VECTOR LABS LOOK BOOK

Victor Bernal-Crespo



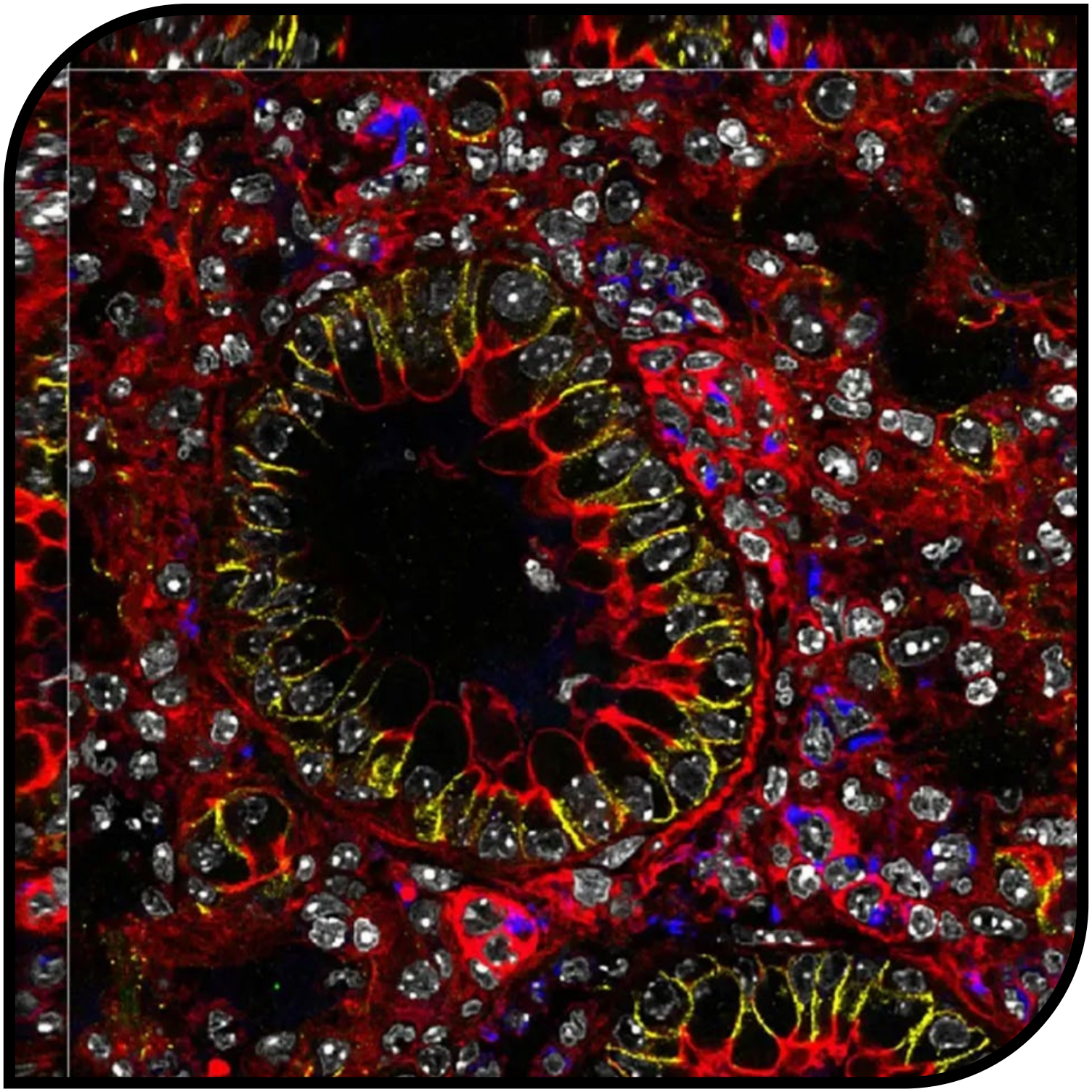
This image was taken from formalin fixed, paraffin embedded pig skin. It is stained with aSMA using ImmPACT DAB and CD31 using ImmPACT Red. Gill's Hematoxylin was used as a counterstain. Image captured by Victor Bernal-Crespo, Purdue University. December 2020.

Products used: SP-5035, MP-7451, MP-5401, SK-4105,SK-5105.



Mouse lung infected with Mycobacterium tuberculosis stained with Masson’s Trichrome to visualize collagen deposition, fibrosis and tissue remodeling. The main structures shown are a bronchus and a pulmonary vessel. Nuclei are stained brown, cytoplasm and erythrocytes are stained red and collagen is stained blue. Image captured by Dr. Selvakumar Subbian, New Jersey Medical School, Rutgers University. December 2020

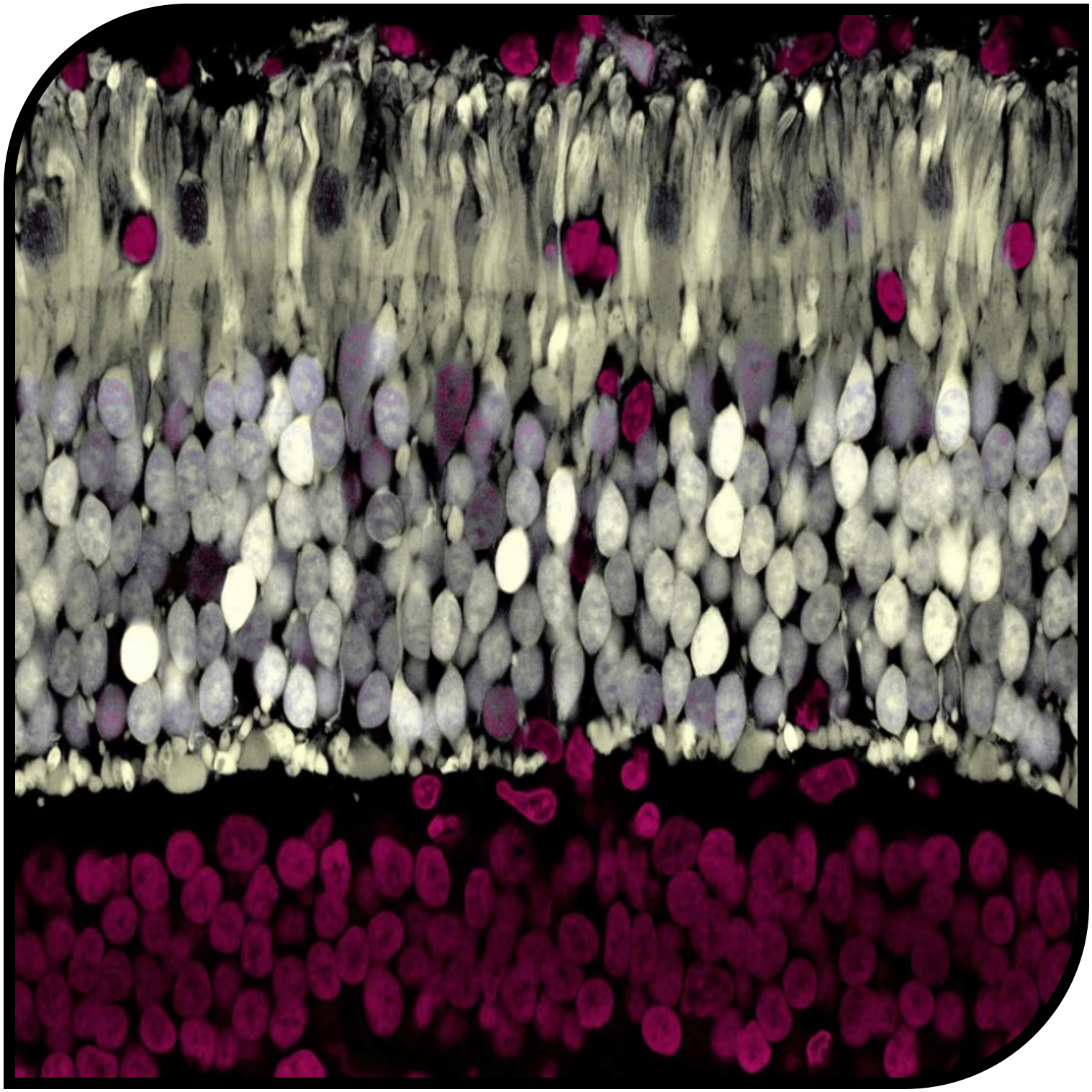
Products used: (H-6100) (SP-1800) (H-5000)



This image shows rapid peri-bronchial accumulation of infiltrated neutrophils 18h post intratracheal S. pneumoniae infection. PFA-fixed lung thick section, Neutrophils (Ly6G, blue); bronchial epithelium (E-cadherin, Yellow); Actin (Phalloidin, red); Nucleus (DAPI, white). Image captured by Linda Xu, Tufts University Graduate School of Biomedical Sciences. December 2020.

Product used: (H-1000)

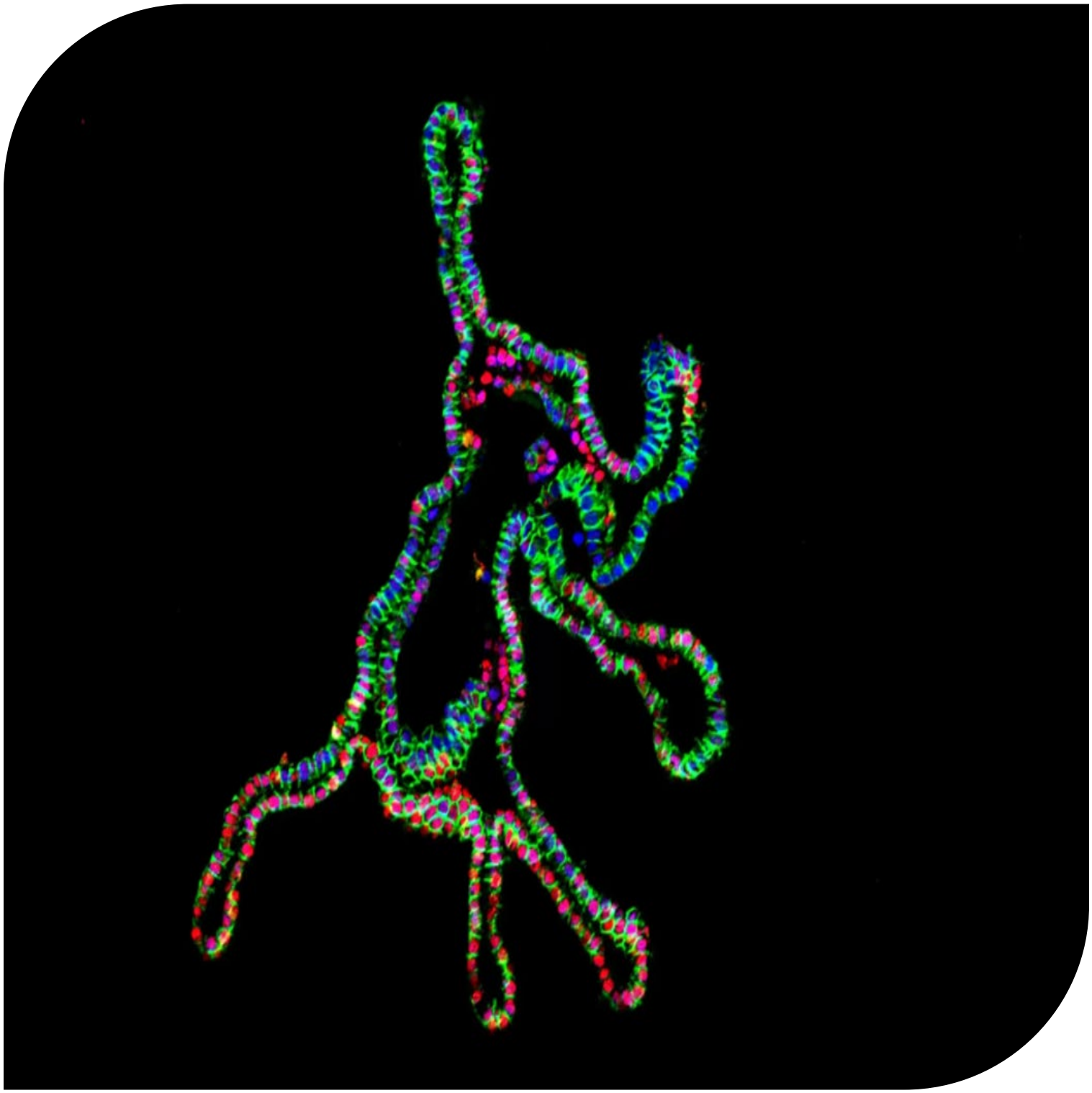
Tania Seabrook



GFP expressing photoreceptors (white) in primate retina. Image captured by Tania Seabrook, Homology Medicines, Inc. December 2020.

Product used: (H-1200)

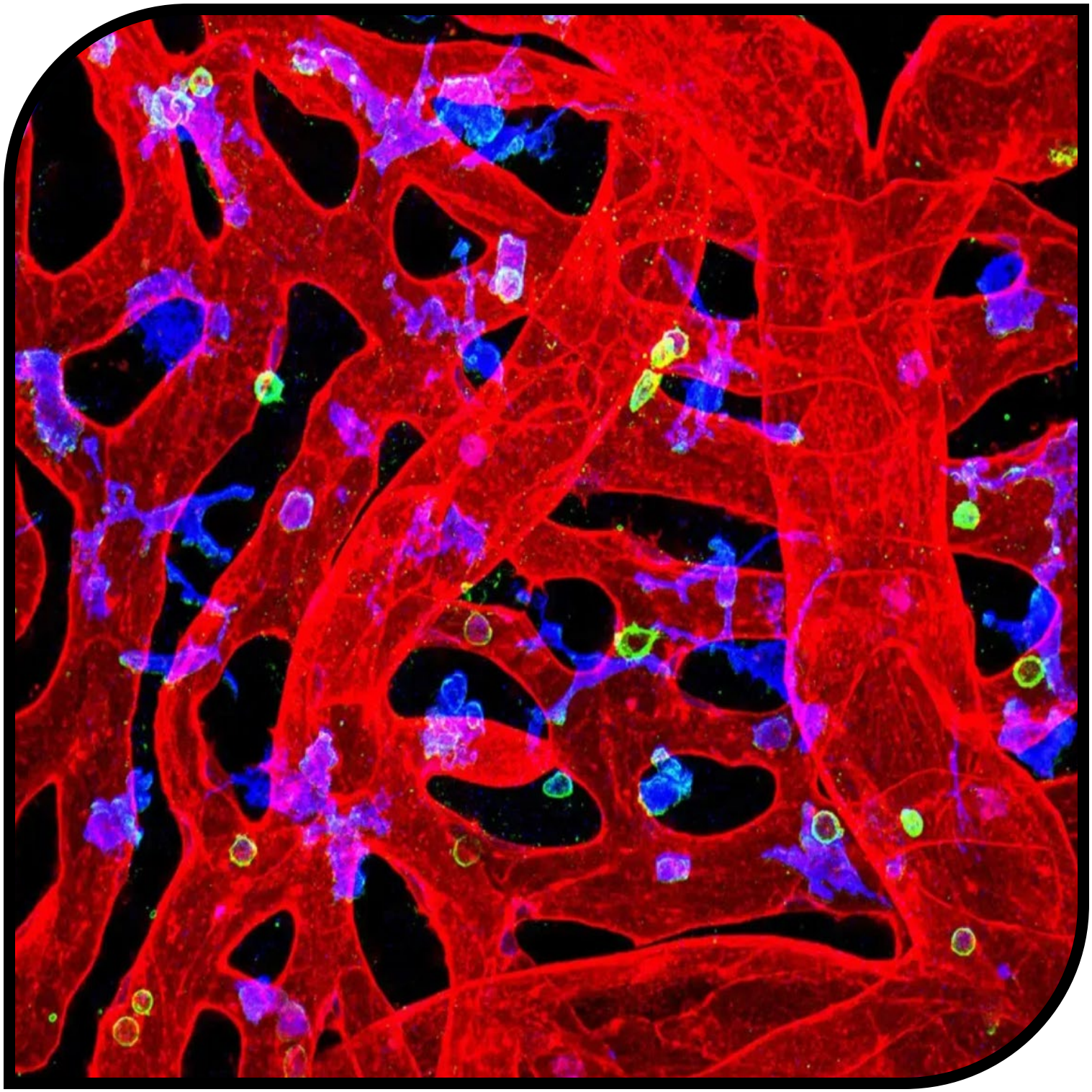
Jose Ortiz



Cross-section of a 3-dimensional human pancreatic colony grown in a semisolid medium containing 1% methylcellulose and 5% Matrigel for 21 days. Cells in colony were stained with epithelial marker E-cadherin (Ecad; green) and endocrine progenitor marker Neurogenin 3 (Ngn3; red). This image confirms the detection of endocrine progenitor cells in colonies derived from pancreatic progenitor-like cells, which have the potential to differentiate into hormone-producing cells such as insulin-producing β-cells. Image captured by Jose Ortiz, Beckman Research Institute of City of Hope, US. December 2020.

Products used: (SP-8400) (H-1700)

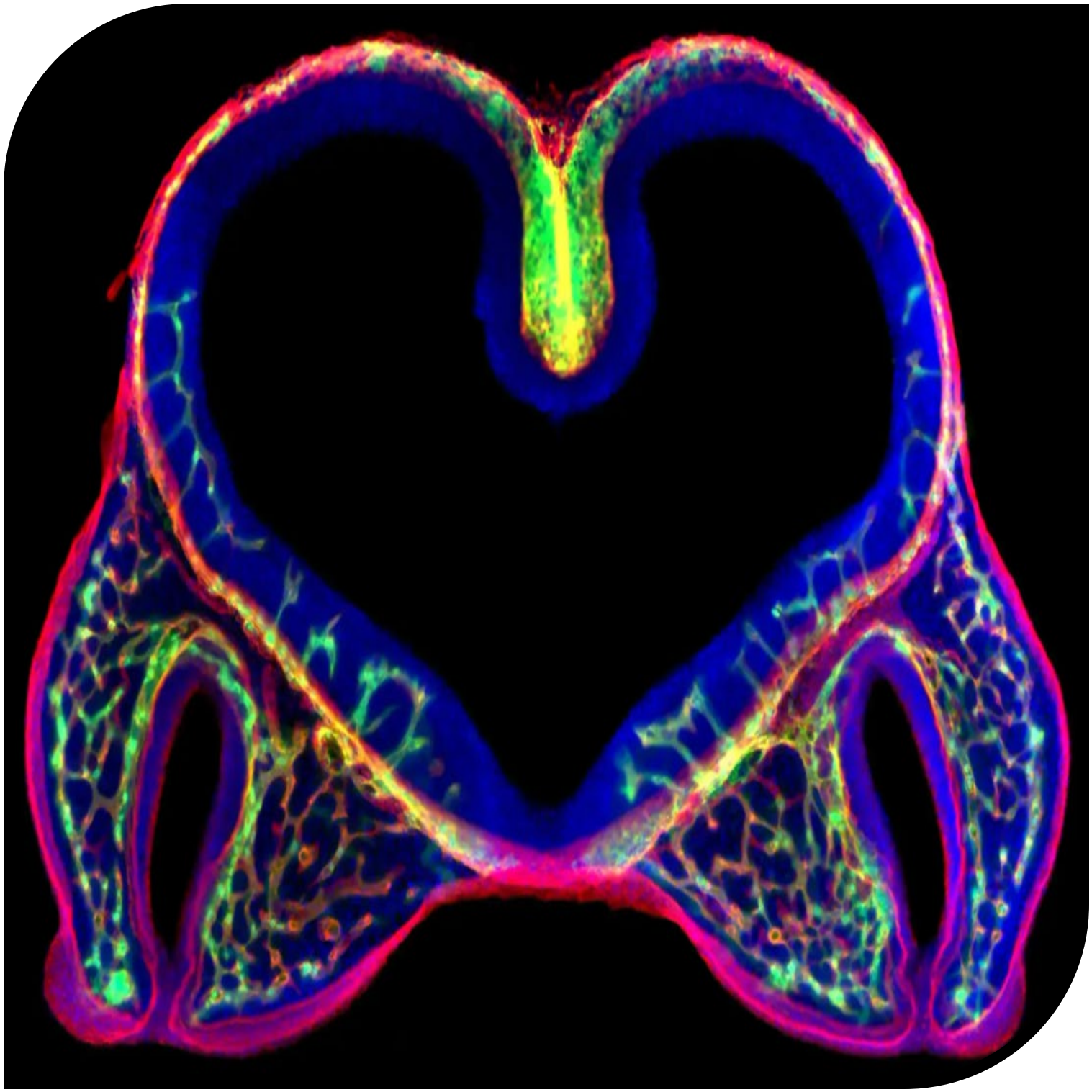
Miles Flamme-Wiese



Confocal projection of a whole mount of the human choroid, the vascular layer of the eye responsible for nourishing the photoreceptor cells that are necessary for vision. Ulex europaeus agglutinin I (red) labels the vascular elements, anti-IBA-1 (blue) recognizes macrophages, and anti-CD45 (green) recognizes all classes of white cells. Miles Flamme-Wiese, The University of Iowa Institute for Vision Research. December 2020.

Product used: (RL-1062)

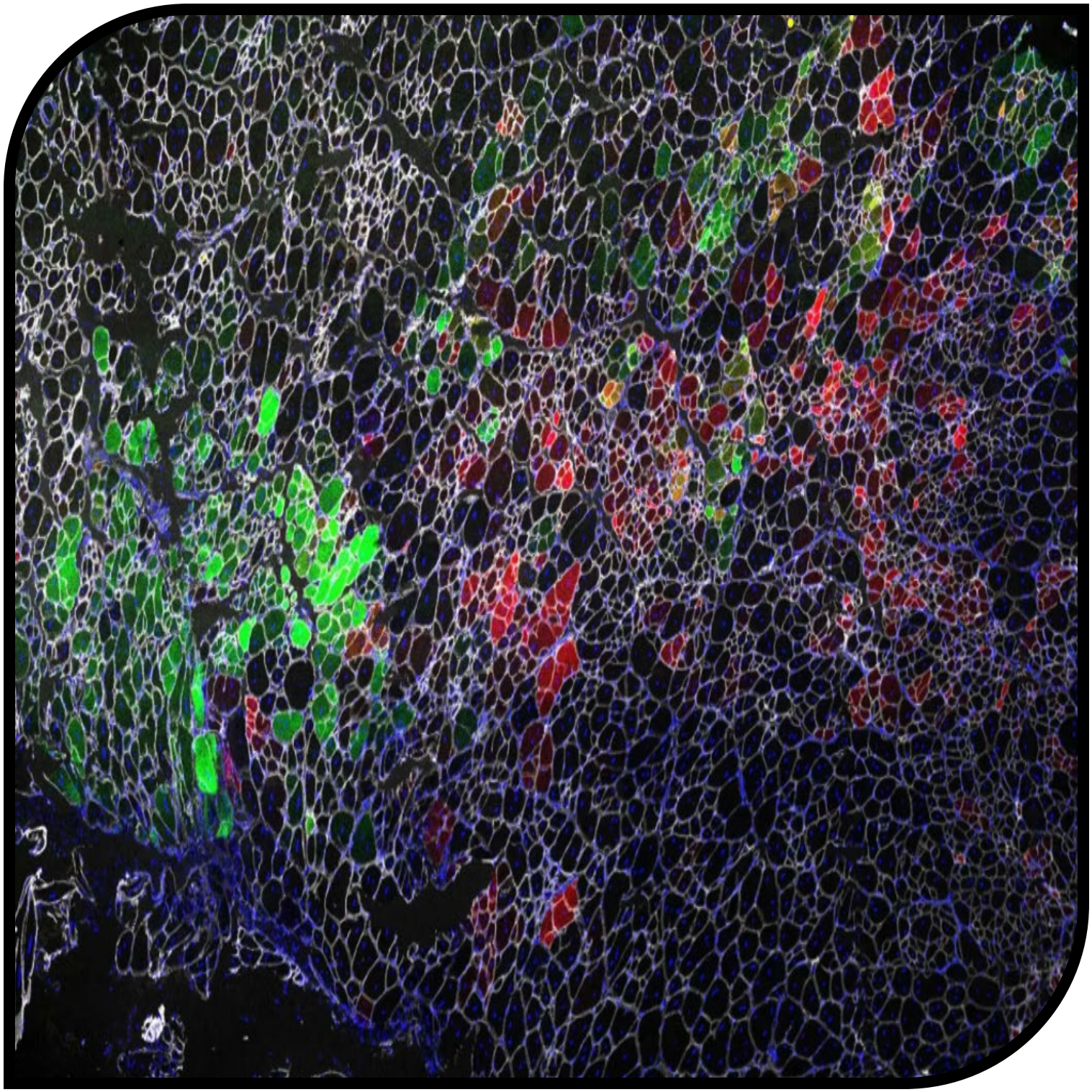
Miranda Sun



A 50-micrometer section of an 11-day-old mouse embryo head was stained for PECAM1 and laminin, delineating the blood vessels in the developing brain and face. A high density of blood vessels is found in the tissue that is fusing to form the upper lip, below the two black slits that will become the nostrils. Image captured by Miranda Sun, University of Wisconsin-Madison. December 2020.

Product used: (H-1000)

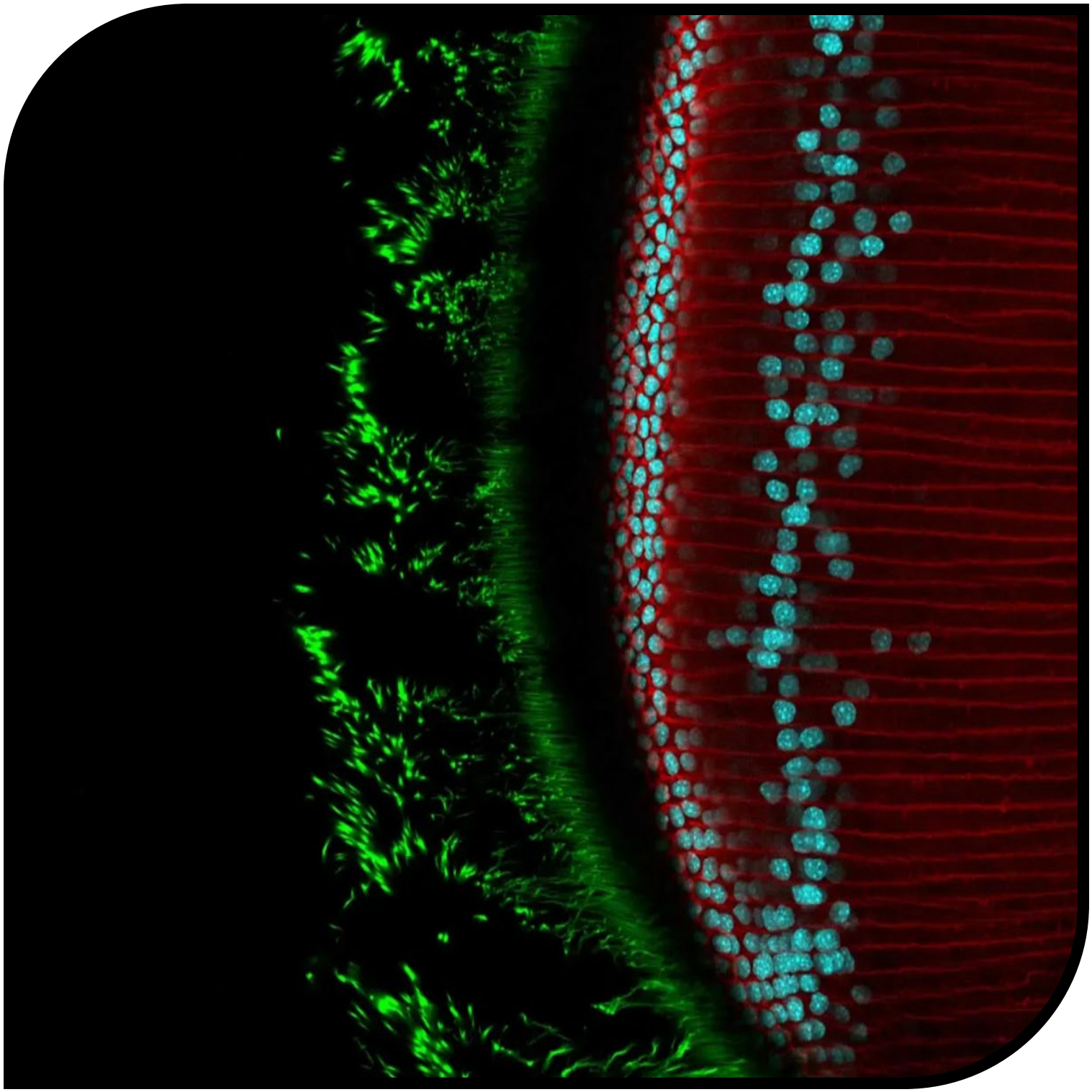
Courtney Young



AAV redosing in a triceps muscle from a mouse model of Duchenne muscular dystrophy. An mdx mouse was treated with immune suppression to allow for AAV redosing where first AAV carrying GFP was injected and then one month later AAV carrying mCherry was redosed. The muscle is stained with laminin (gray) to mark muscle fibers and imaged for GFP (green) and mCherry (red) expression. Nuclei are stained with DAPI (blue). Both GFP and mCherry expression are seen demonstrating effective AAV redosing. Image captured by Courtney Young, MyoGene Bio (experiment performed in collaboration with UCLA, funded by NIAMS SBIR award and imaged at CNSI ALMS). December 2020.

Product used: (H-2000)

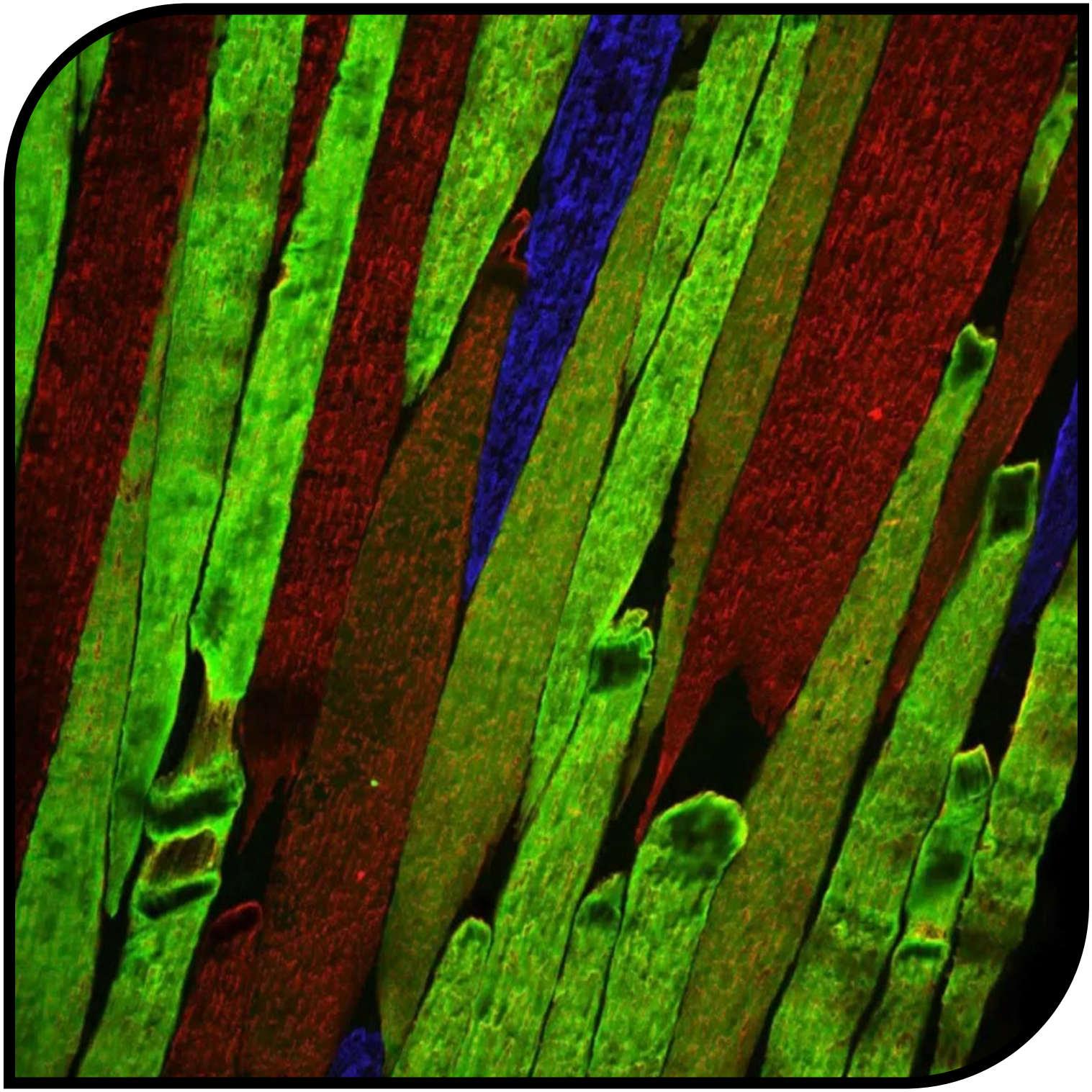
Steven Bassnett



A single optical confocal section, showing fiber cells in the ocular lens (red; endogenous TdTomato label) and nearby filaments of the ciliary zonule (green; immunofluorescence against fibrillin-1). Lens cell nuclei (blue) are stained with DAPI. Image captured by Steven Bassnett, Washington University. December 2020.

Products used: H-1200

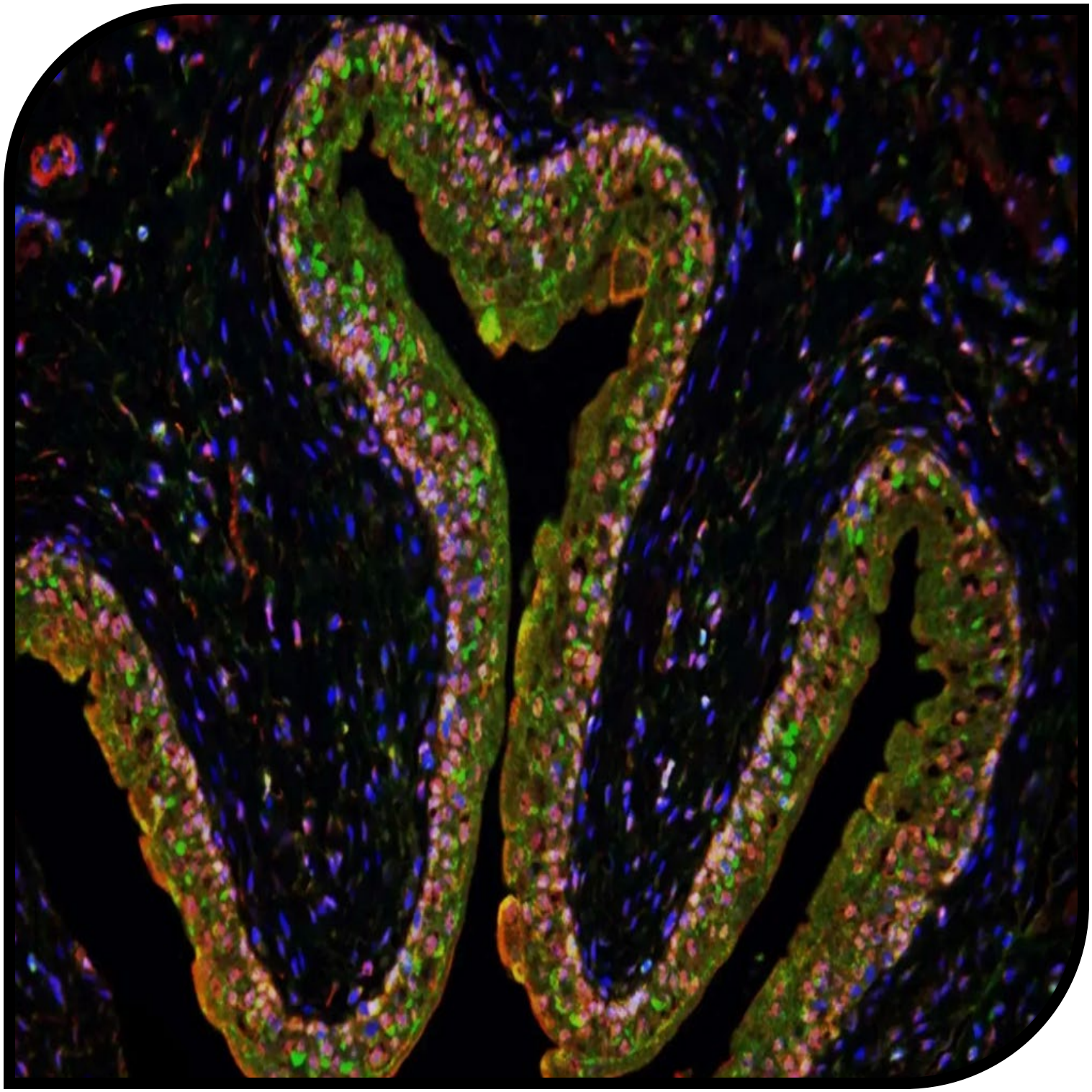
Keri Gardner



Triple label immunofluorescence for fiber-typing of equine skeletal muscle. Type I slow-twitch (blue), Type 2x fast- twitch (red), Type 2a fast-twitch (green) and Type 2ax fibers appear orange. Nikon confocal microscope at 20x magnification. Image captured by Keri Gardner, Michigan State University, with special acknowledgment to Melinda Frame and the Equine Neuromuscular Diagnostic Laboratory. December 2020.

Products used: (H-1900) (SP-5050)

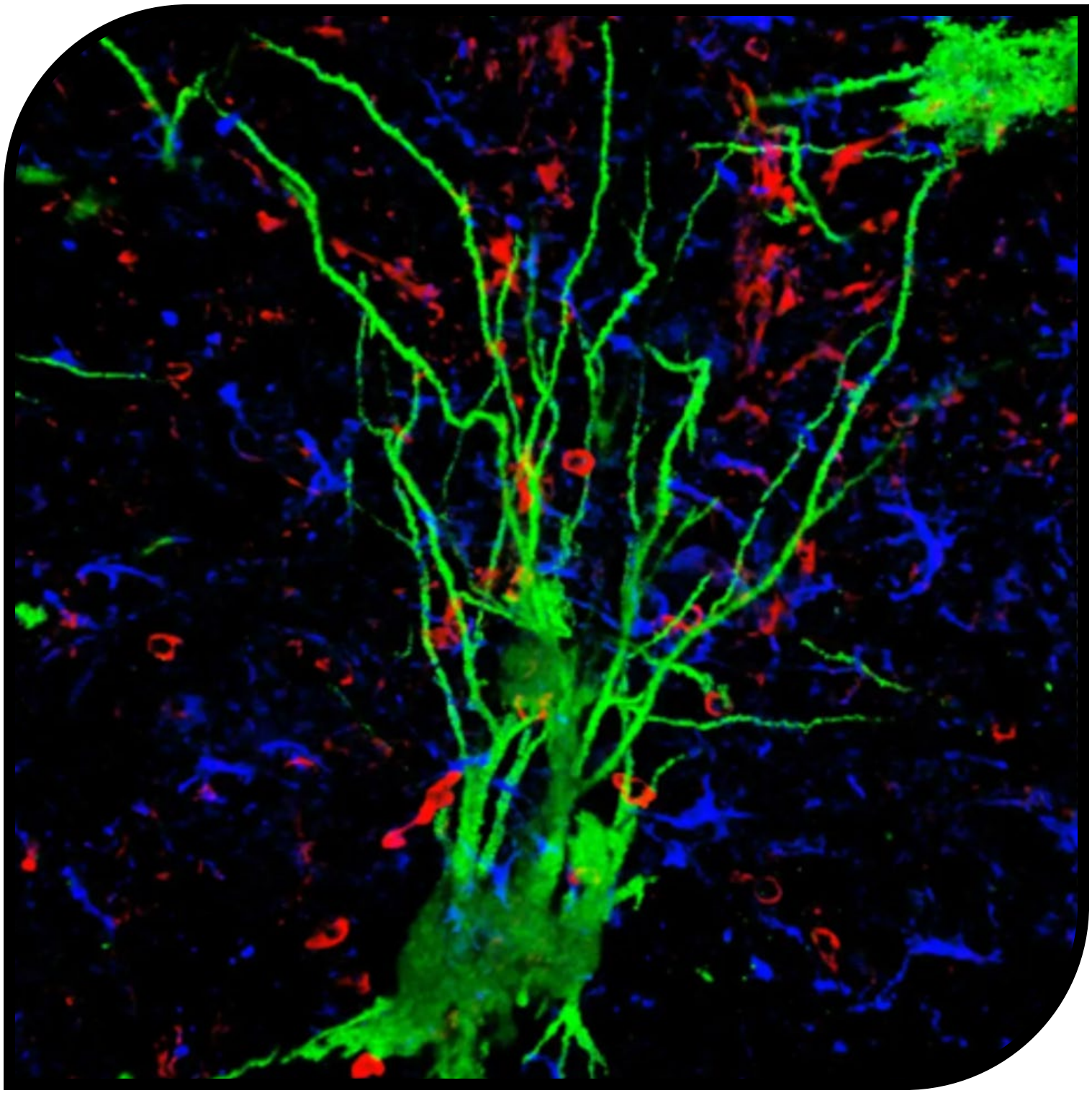
Kristina Stumpf



Mouse bladder showing mesenchyme markers in remodeling.

Product used: (H-1900)

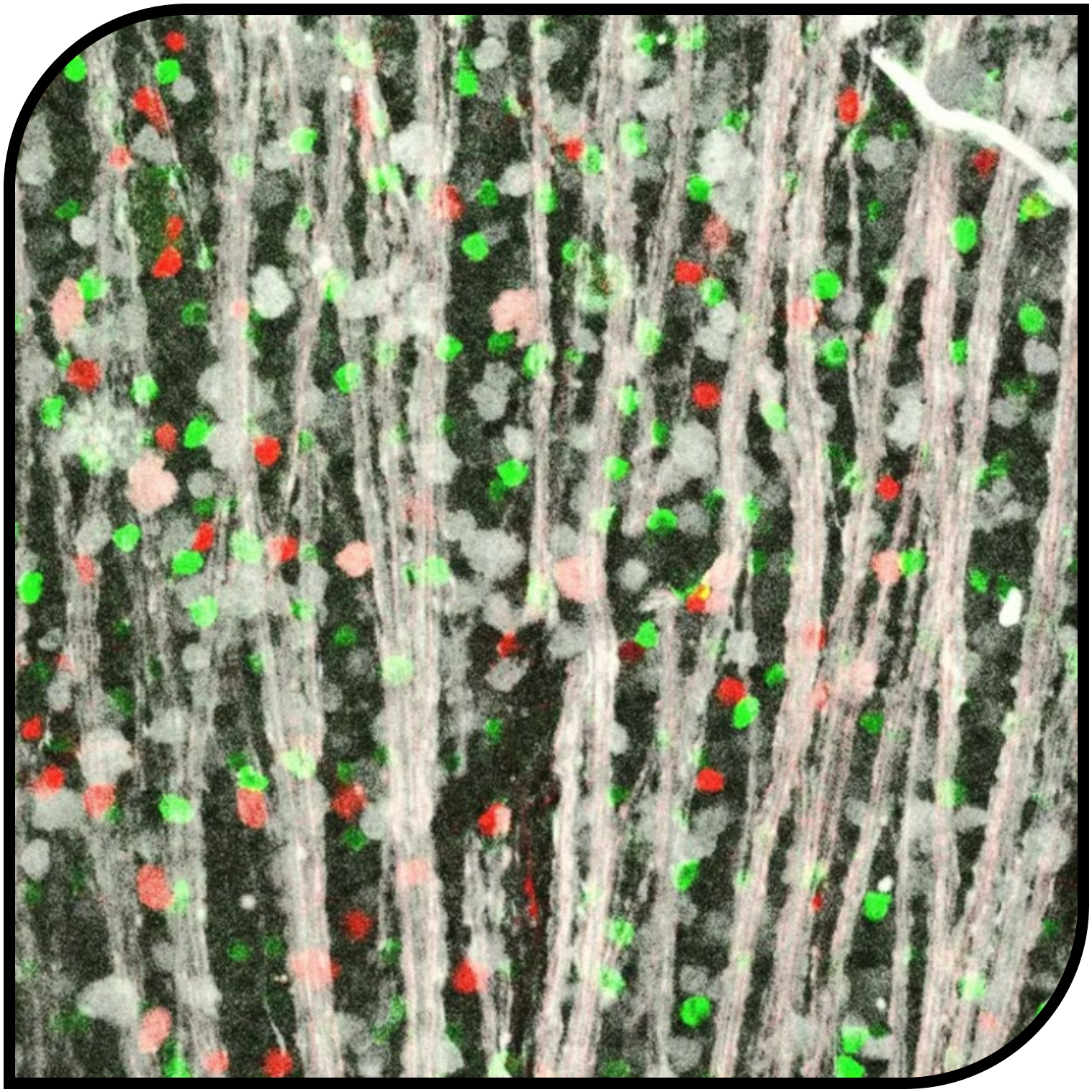
Yee Ming Khaw



Interactions between immune cell and neuron in mouse hippocampus during neuroinflammation. Pseudo colors applied to image, CD4+T cell (red); Iba1+ monocyte/microglia cell (blue); Golgi-Cox+ neuron (green).

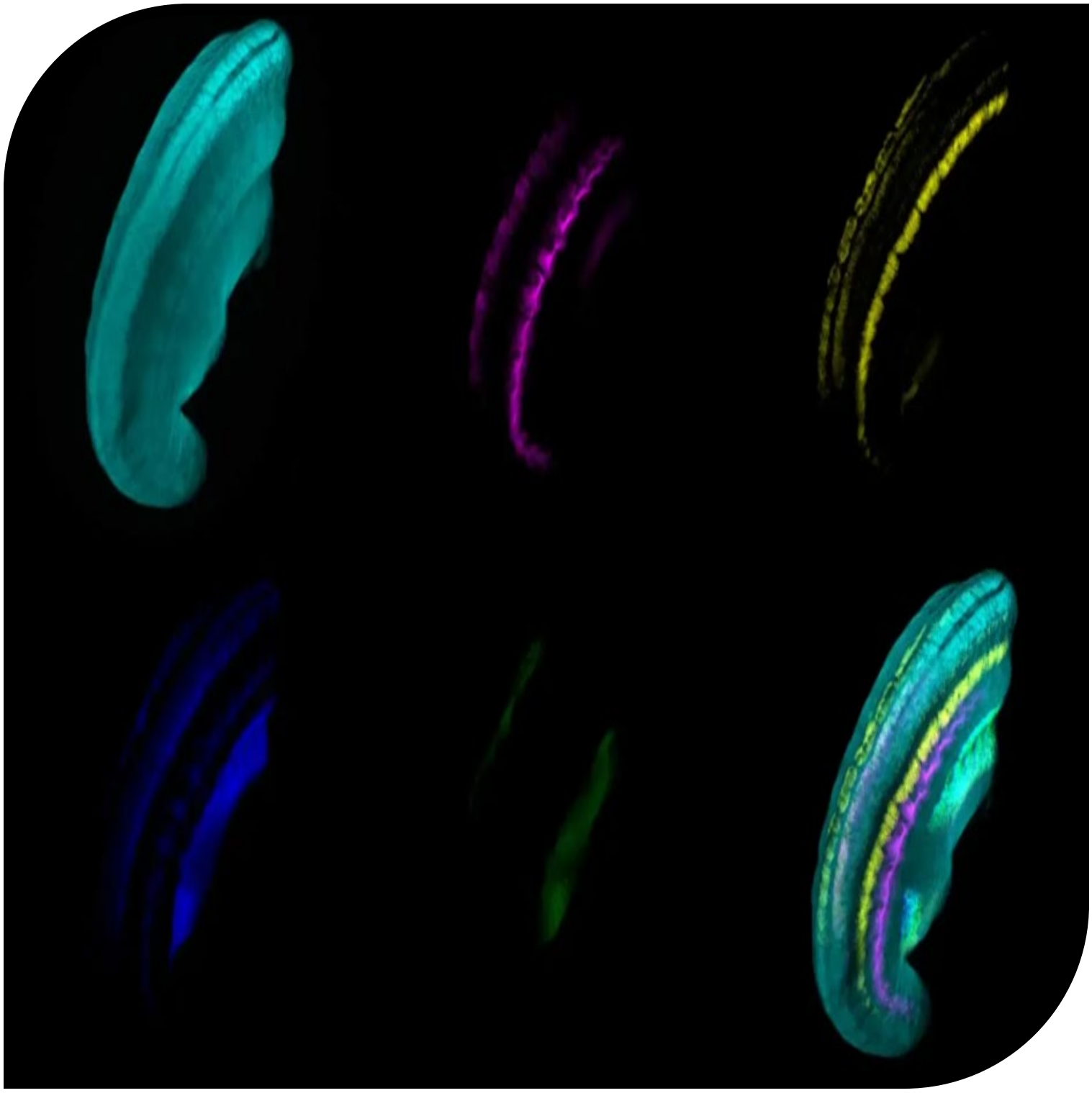
Product used: (DK-2488)

Abdelrahm Fouda



Adult mouse retina flat-mount expressing tdTomato (red) under LysM cre promoter and immunolabelled for chat (green) and parvalbumin (grey).

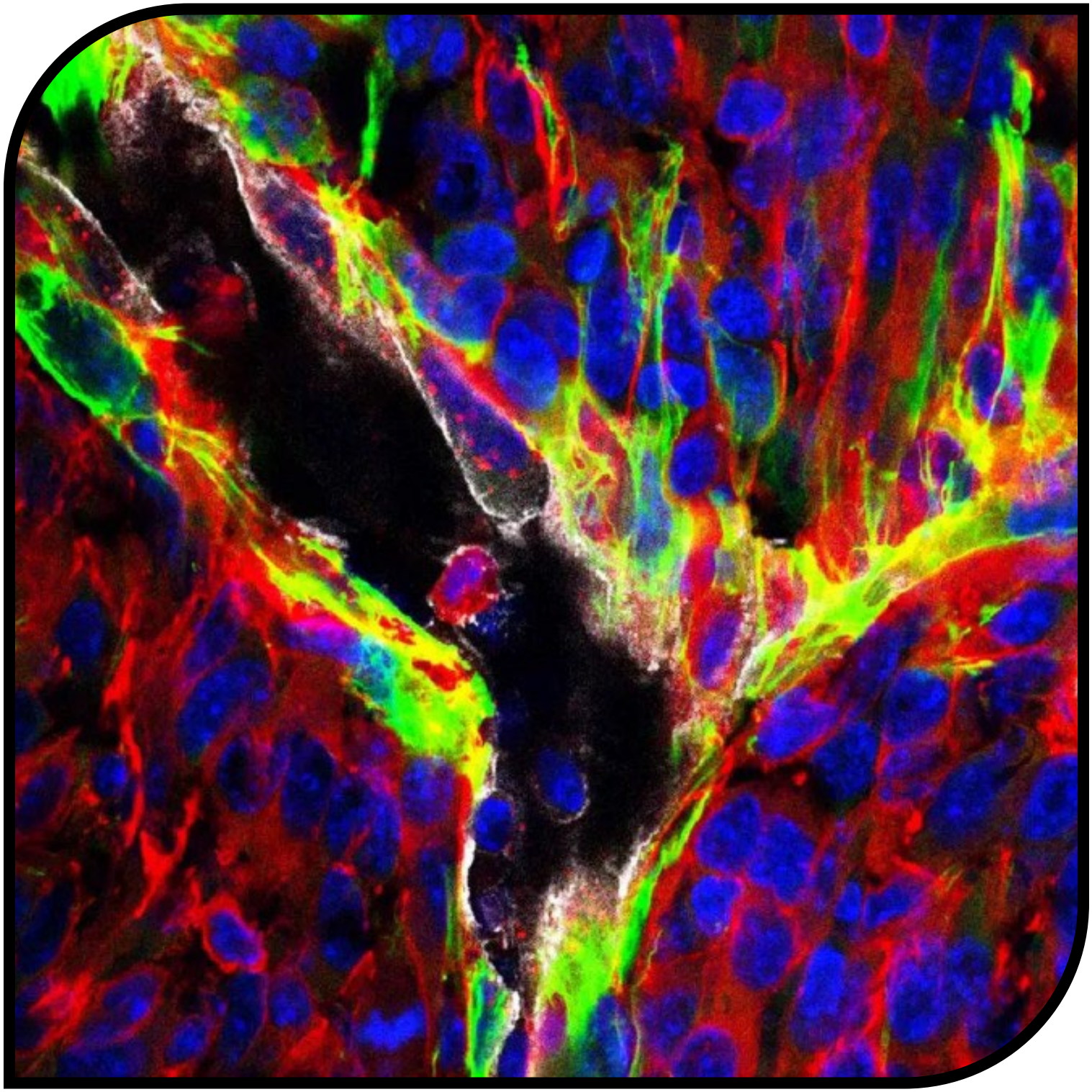
Product used: (H-1000)



Confocal image of a whole mount E10.5 mouse embryo (mutant for FGF4 and FGF8) in the hindlimb region, showing the mRNA expression of 4 genes: Islet1 (purple), Pax1 (yellow), Twist1 (blue) and Emx2 (green) and DAPI (cyan). Vector TrueVIEW was used after DAPI staining to quench the autofluorescence caused by paraformaldehyde fixation.

Product used: (SP-8400)

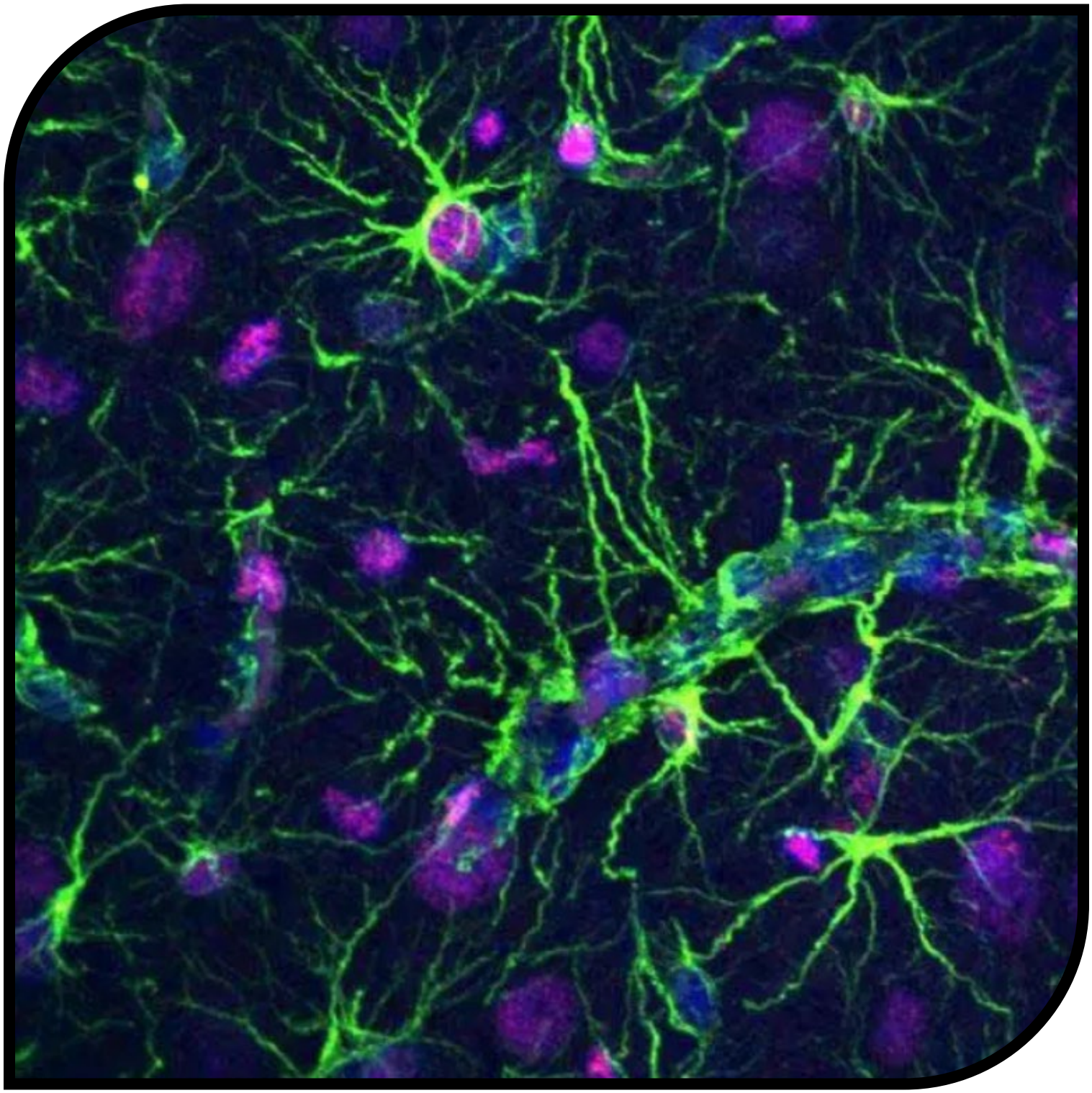
Anastasia Widyadari



An image of a radiotherapy treated highly permeable blood vessel in an in vivo mouse model of a brain tumour that has been intravenously injected with fluorescent-conjugated BSA molecule and has extravasated through the blood vessels. Blood vessels stained with Endomucin and CD34 (white), α-SMA (green), BSA (red) and DAPI for nucleus (blue). Vector TrueVIEW Kit and BLOXALL reagent were used for blocking non-specific signals. Image was taken on 100x Zeiss Confocal Microscope.

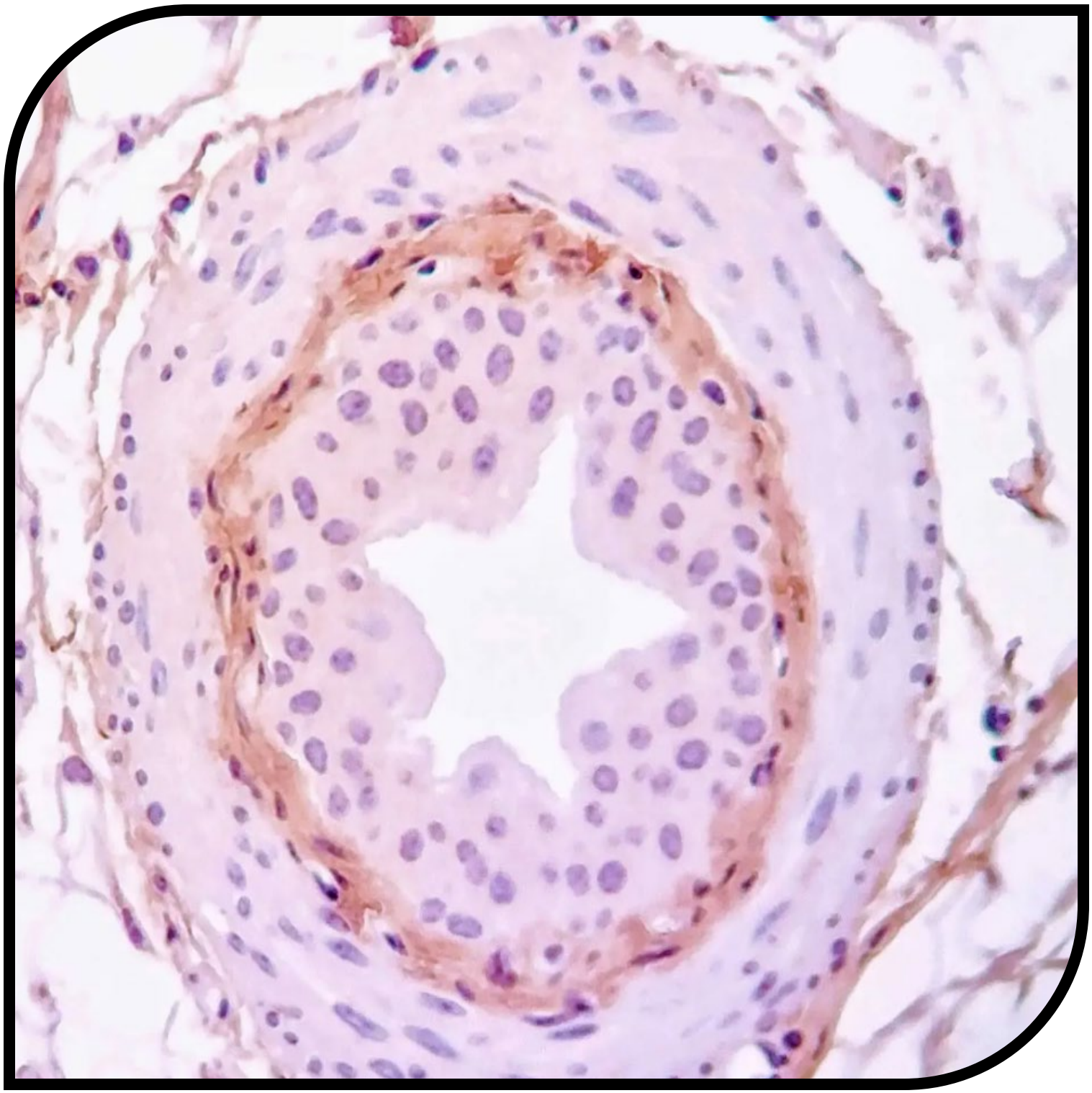
Products used: (SP-8400) (SP-6000)

Zhengming Wang



This image unveils a co-relationship between proliferating and non-proliferating astrocytes in lamb brain during neurogenesis by double immunofluorescent staining combined with confocal technique. Marker of GFAP (Green, fluorescein) is used for astrocytes; Marker of PCNA (proliferating cell nucleus antigen), (Red, Tyramide-Rhodamine) is applied for proliferating nuclei; Marker of DAPI (Blue) represents the all nuclei of cells for their orientation in brain.

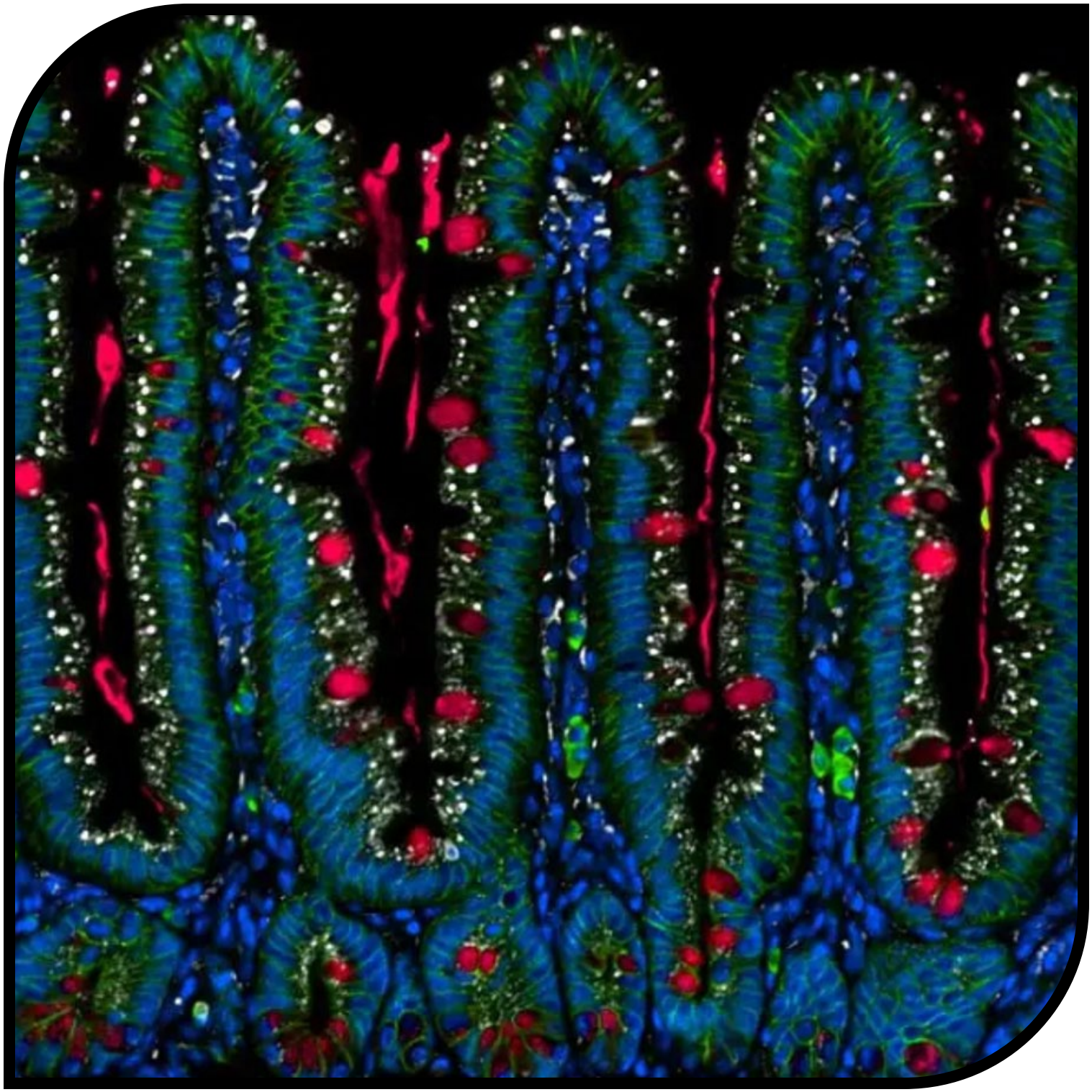
Products used: SP-2001, PI-2000, FI-2000, H-1200



Anti-collagen antibody expressing in mouse ureter.

Product used: (MP-7802)

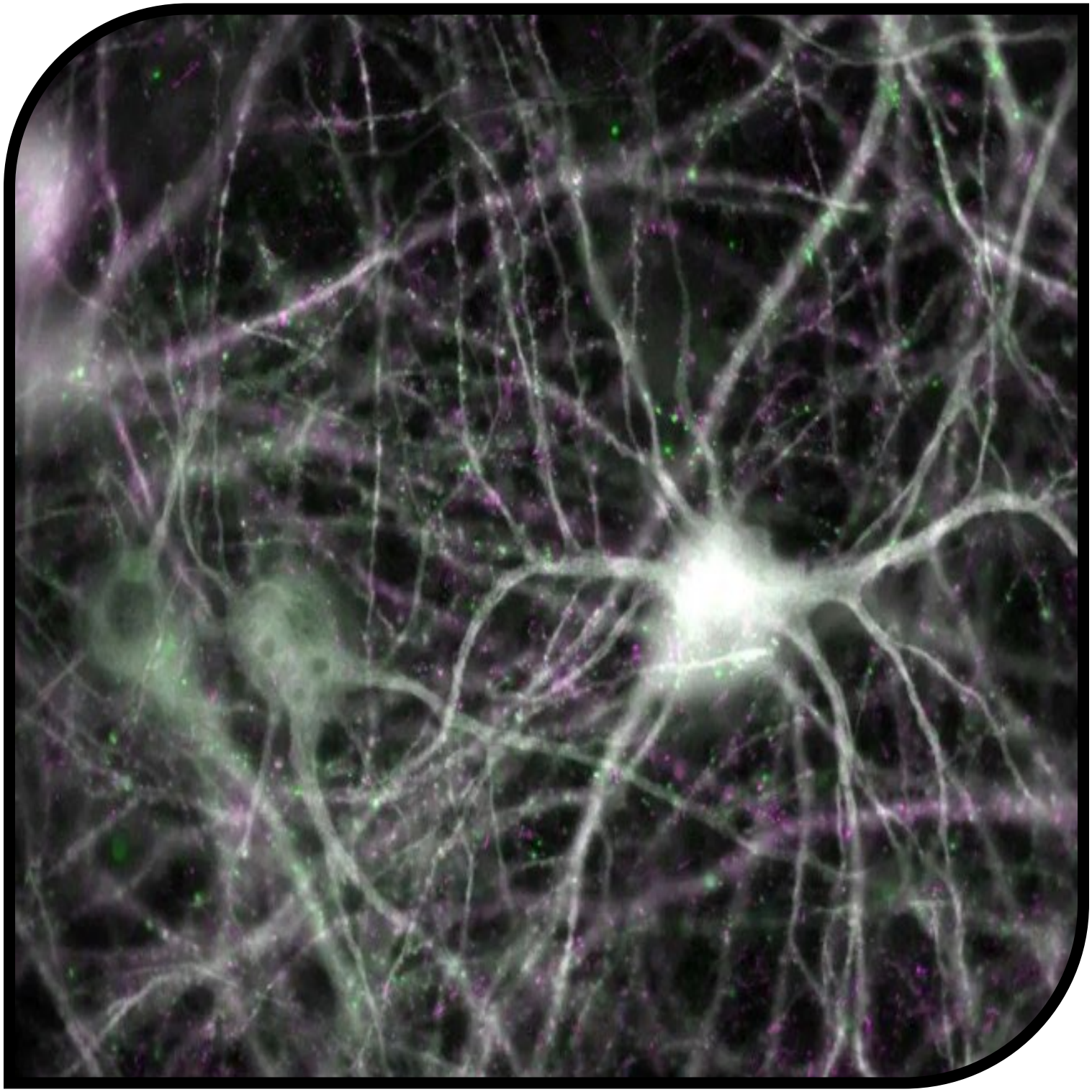
Kristen Engevik



Immunofluorescence image of mouse small intestine (jejunum). Nuclei is visualized in blue, mucus (MUC2) in red, lysosomes (lamp1) in white, and catenin (p120) showing the intracellular membrane structure in green.

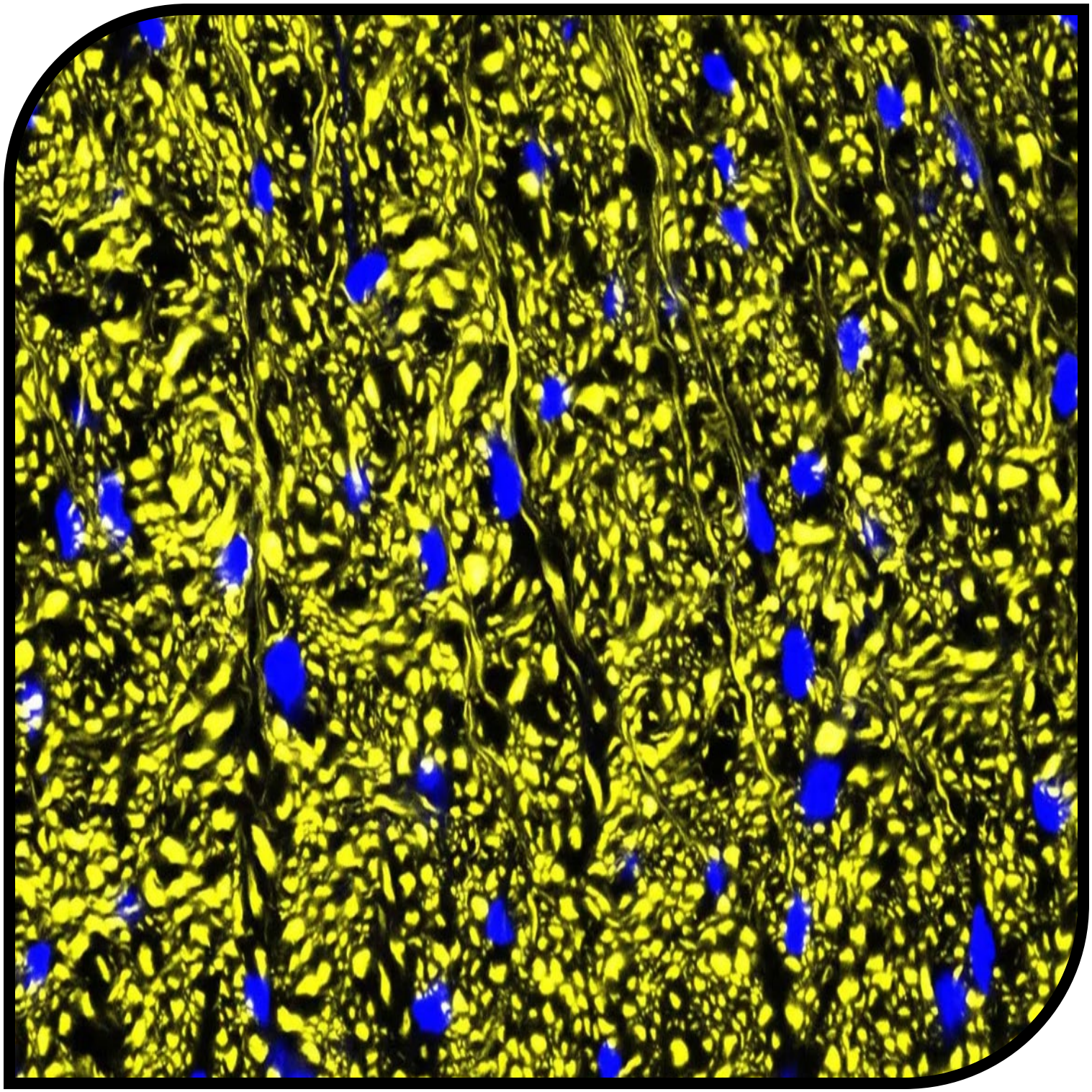
Products used: (H-4000) (MKB-2213)

Janosch Heller



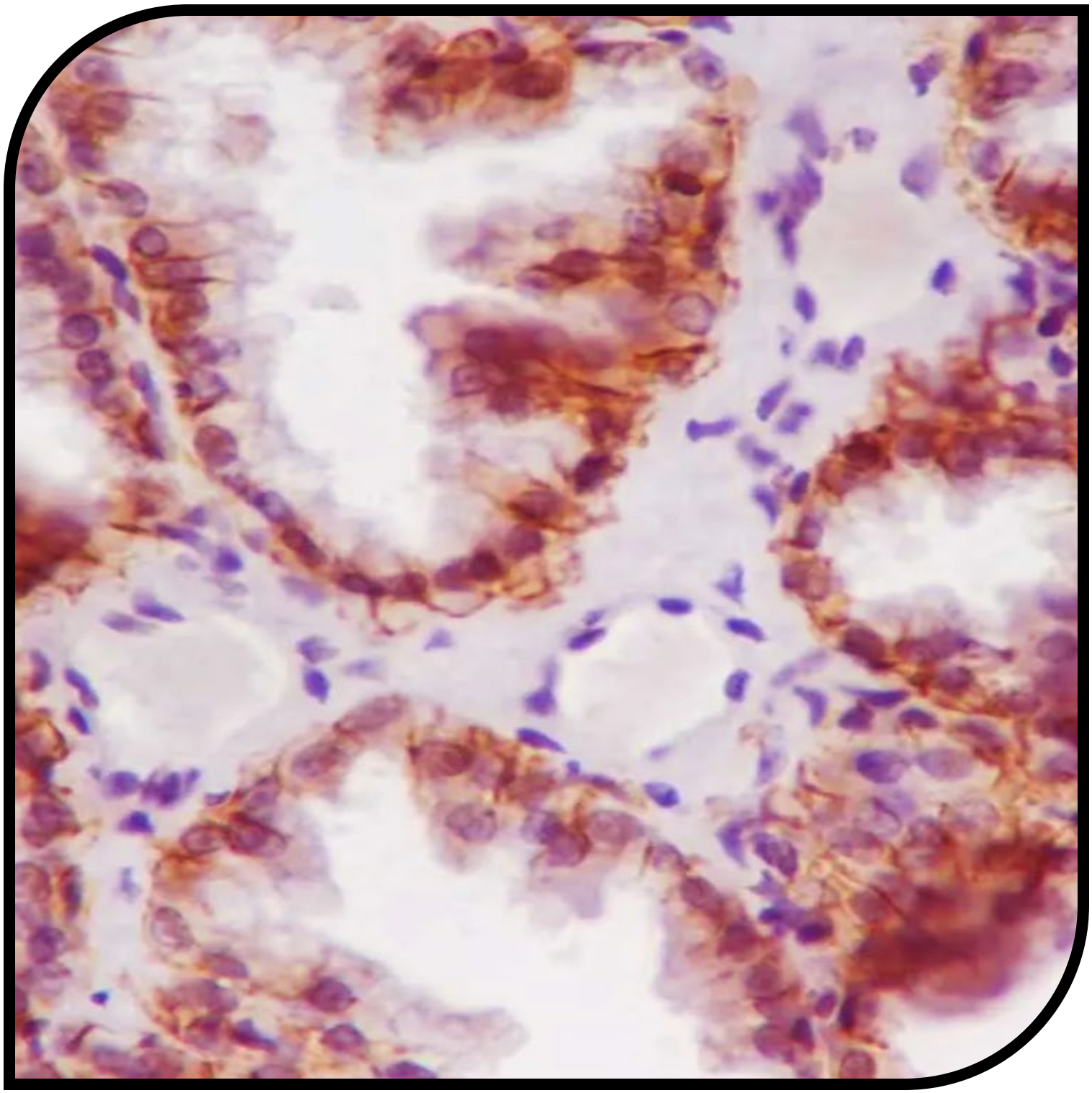
Mixed hippocampal cultures (rat, male, P0, 28 DIV) were immunostained for MAP2 (grey/blue), bassoon (magenta) and Homer1 (green), mounted in VECTASHIELD HardSet Mounting media and imaged on a Vutara 350 microscope in widefield mode. Image captured by Janosch Heller, Queen Square Institute of Neurology, University College London, UK. Canvas presented by Vector Laboratories Ltd., 2020.

Product used: (H-1400)



A spinal cord cross-section from an ALS yellow fluorescence transgenic mouse, counterstained with DAPI.

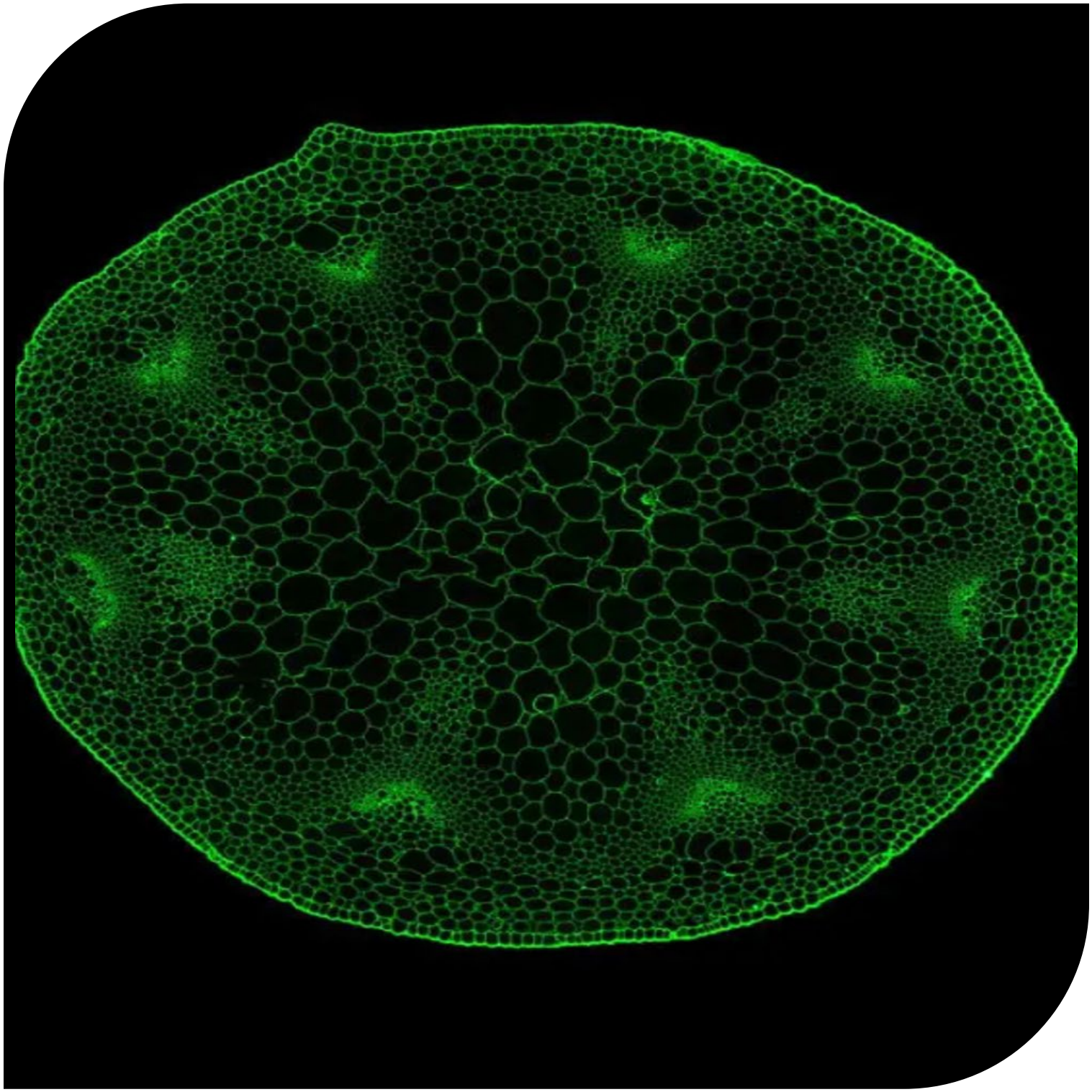
Product used: (H-1200)



Expression of E-cadherin in goat mammary glands. E-cadherin is required for cell to cell interaction, playing an important role in calcium-dependent cell adhesion.

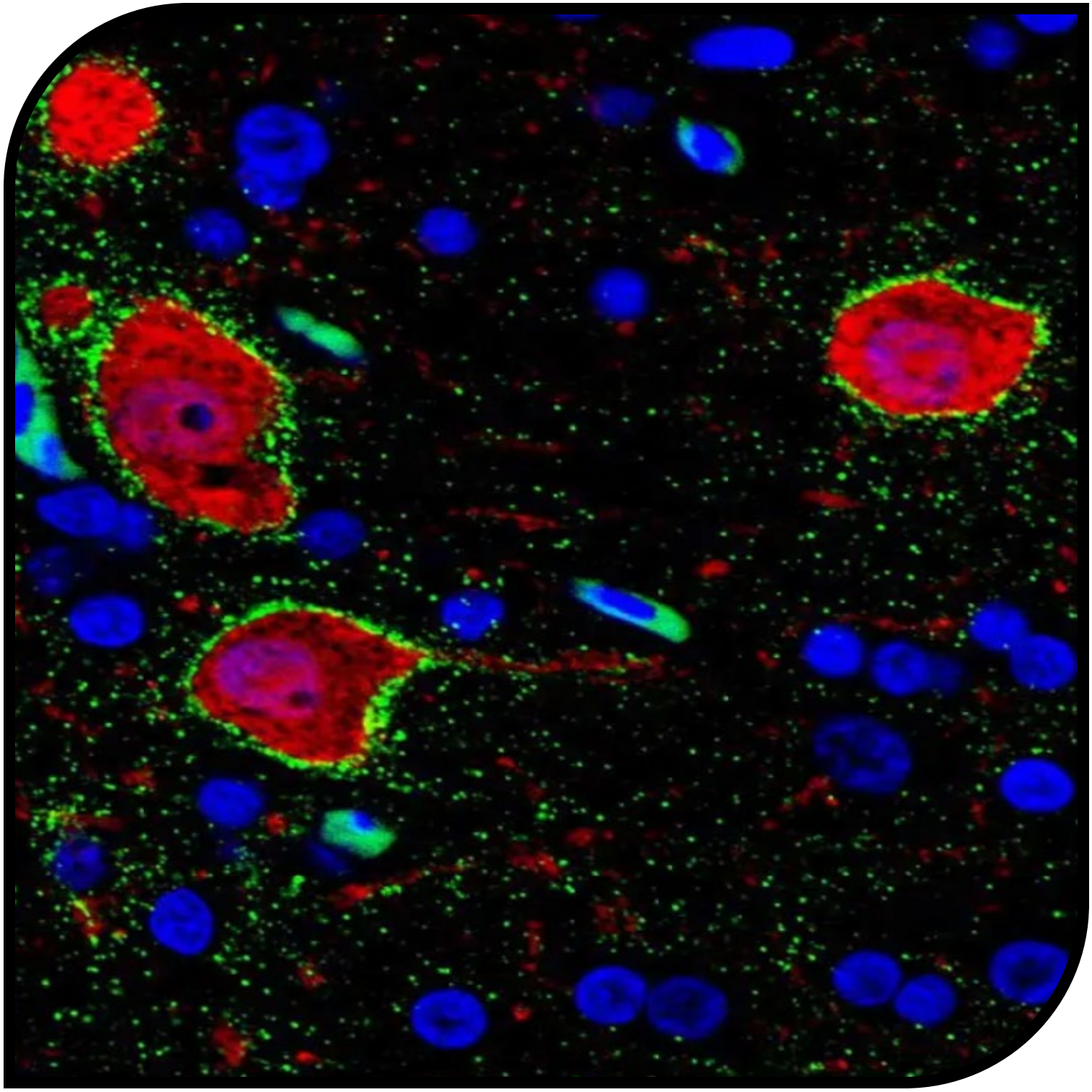
Products used: (MP-7500) (SK-4805)

Olivier Leroux



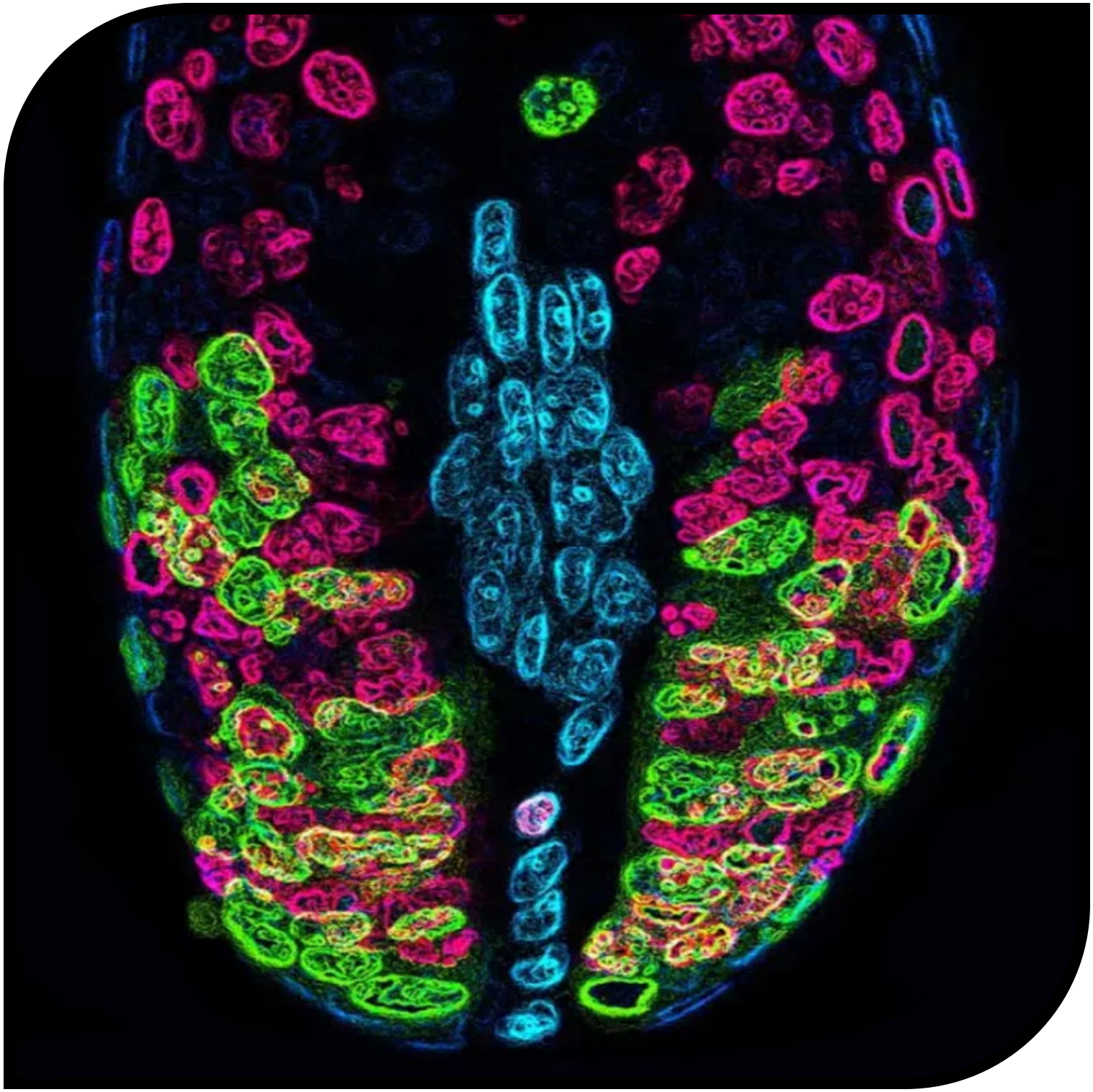
LR white section through the inflorescence stem of Arabidopsis pretreated with sodium carbonate mounted on a VECTABOND-coated slide, labeled with a monoclonal antibody against pectin (pectic homogalacturonan). All primary cell walls are stained. Image courtesy of Olivier Leroux, Ghent University, Belgium.

Product used: (SP-1800)



Zebra Finch bird brain section (50 micron) showing the expression of parvalbumin (red), perineuronal net (green) and nuclei (blue).

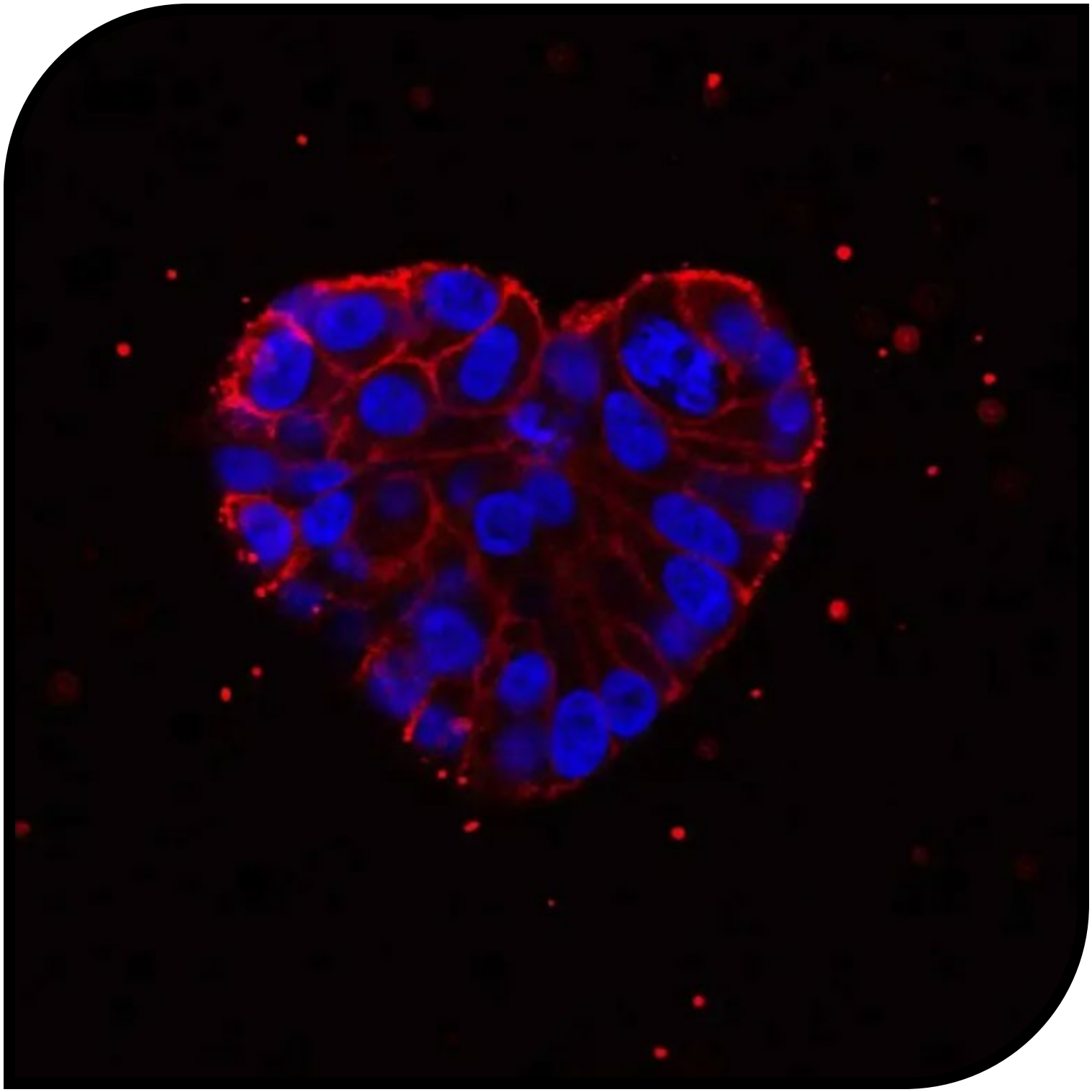
Product used: (H-1200)



Fluorescent images with neon effect showing successive proliferation within the bulb of a hair follicle. Proliferating cells labelled for CldU (red), IdU (green) with cells dividing twice taking up both labels (yellow). Epidermal nuclei (blue) and dermal papilla nuclei (cyan) labelled with DAPI.

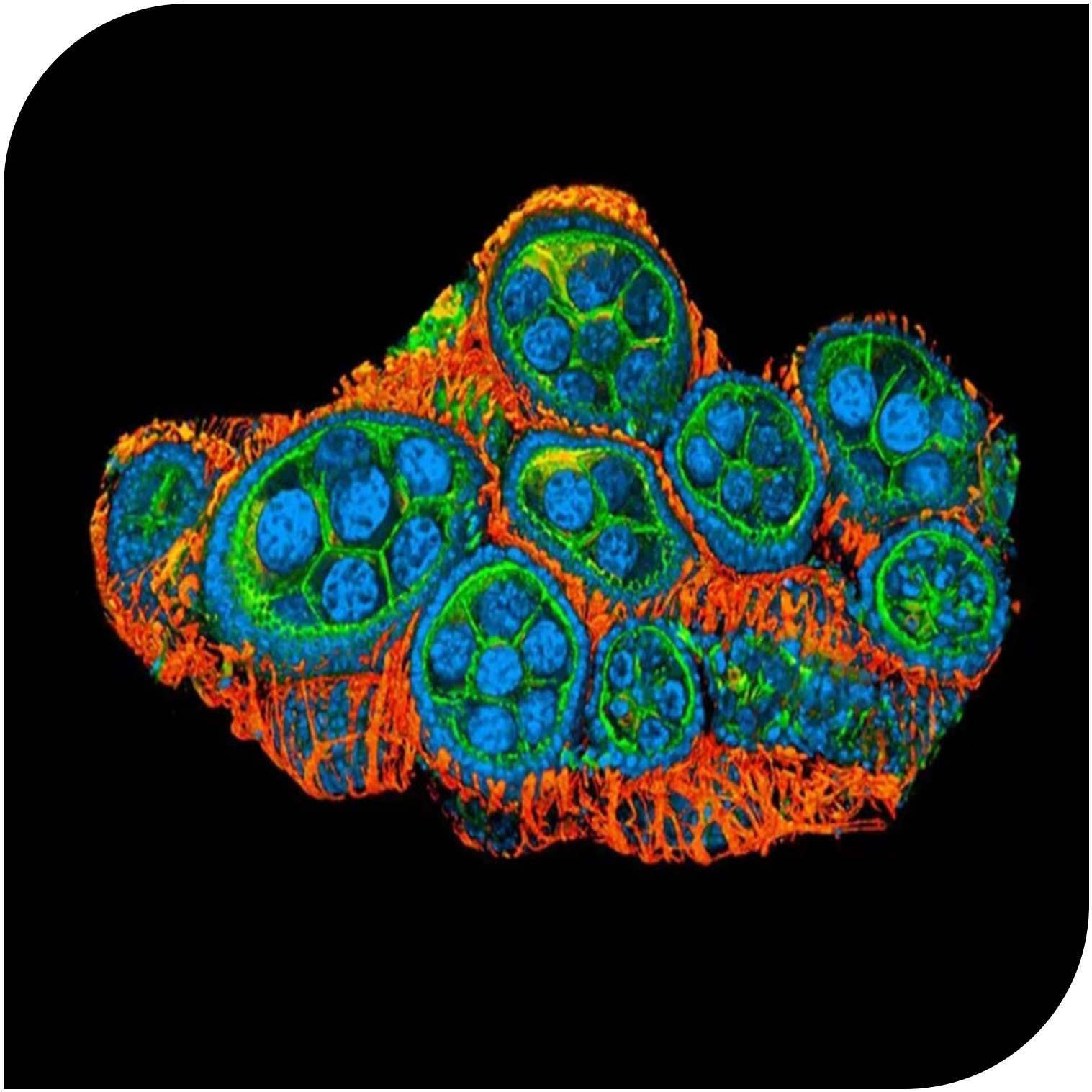
Products used: (BMK-2202) (BA-9400) (H-1200)

Laurent Fattet



Human mammary epithelial cells MCF10A 3D-cultured on a low rigidity substrate and stained with DAPI (blue) and anti-pY576 FAK antibody (red).

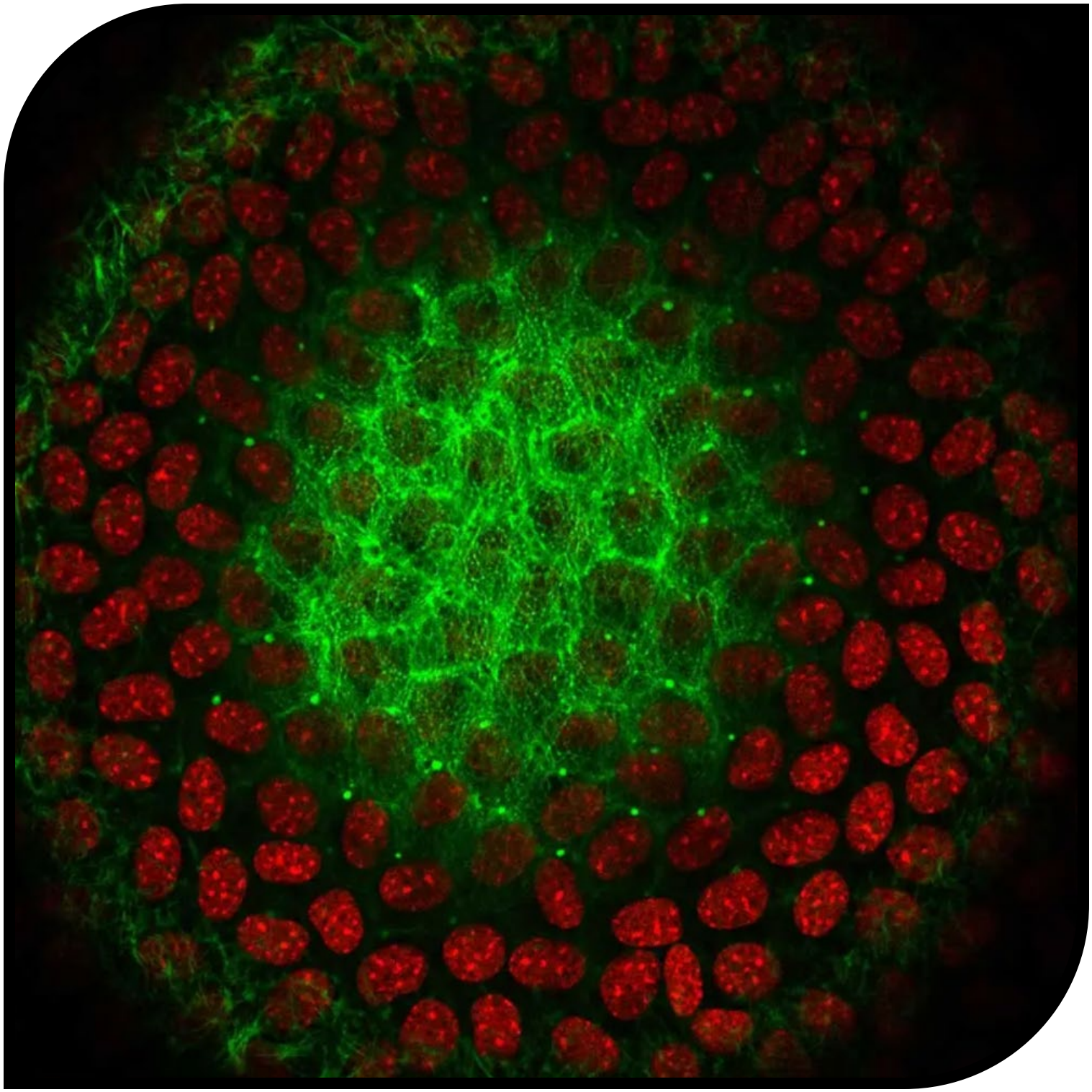
Product used: (H-1200)



Fruit fly ovarian nurse cells. Cutaway three-dimensional reconstruction from a confocal stack of a Drosophila melanogaster ovary. E-cadherin (GFP, green), f-actin (red) and DAPI (blue).

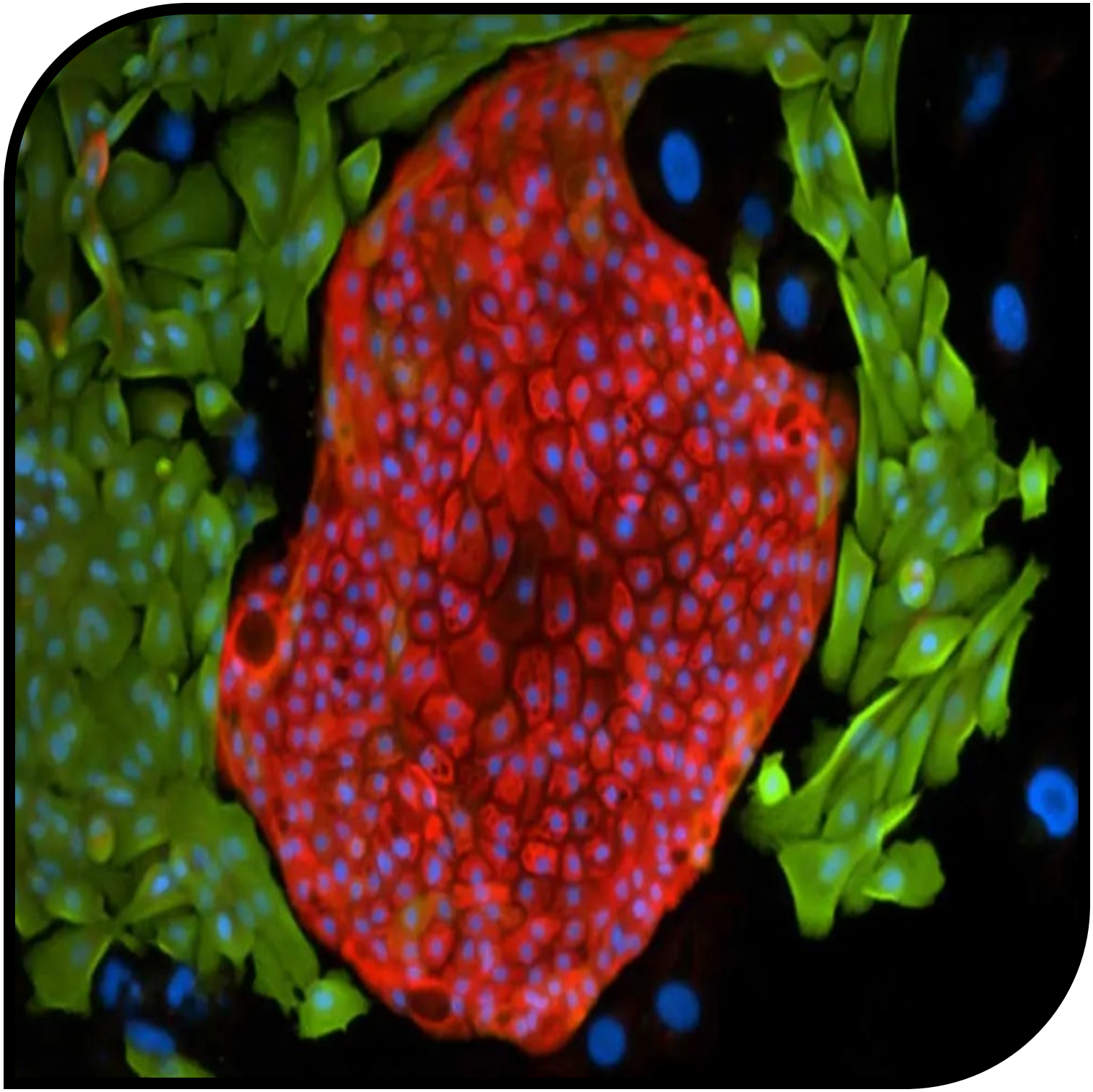
Products used: (H-1200)

Catherine Cheng



The lens is a transparent and avascular organ in the front of the eye that is responsible for focusing light onto the retina in order to transmit a clear image. A monolayer of epithelial cells covers the anterior hemisphere of the lens, and the bulk of the lens is made up of fiber cells. Epithelial cells near the anterior pole are cuboidal in shape and contain diverse actin filaments.[1] This image shows one optical section of a whole mouse lens stained with phalloidin (F-actin, green) and DAPI (nuclei, red). The basal surfaces of these anterior epithelial cells contain actin stress fibers and actin filament-rich lamellipodia (cells in the outermost ring). On the lateral surfaces, anterior epithelial cells are polygonal in shape with actin cortical fibers and sequestered actin bundles (cells in second ring from the outside with bright green F-actin puncta). Apical domains of the anterior epithelial cells contain polygonal arrays of actin filaments[11] (cells in the middle). These geodesic domes of actin are hypothesized to flatten in order to maintain epithelial cell integrity during lens shape changes (accommodation) so you can see near objects clearly.

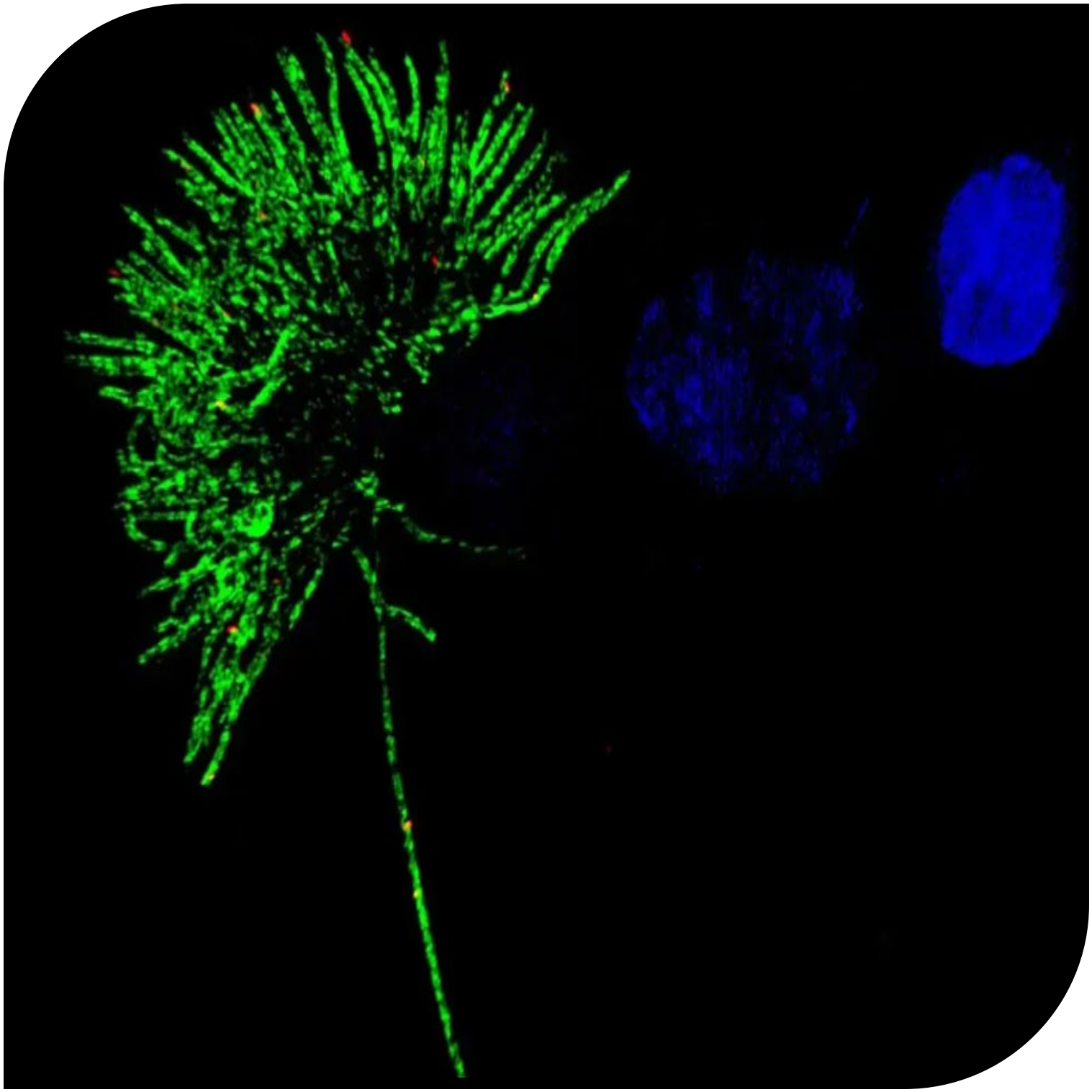
Product used: (H-1200)



Staining of human breast cancer colony forming culture for basal (Cytokeratin 14, green) and luminal markers (Cytokeratin 18, red).

Product used: (H-1200)

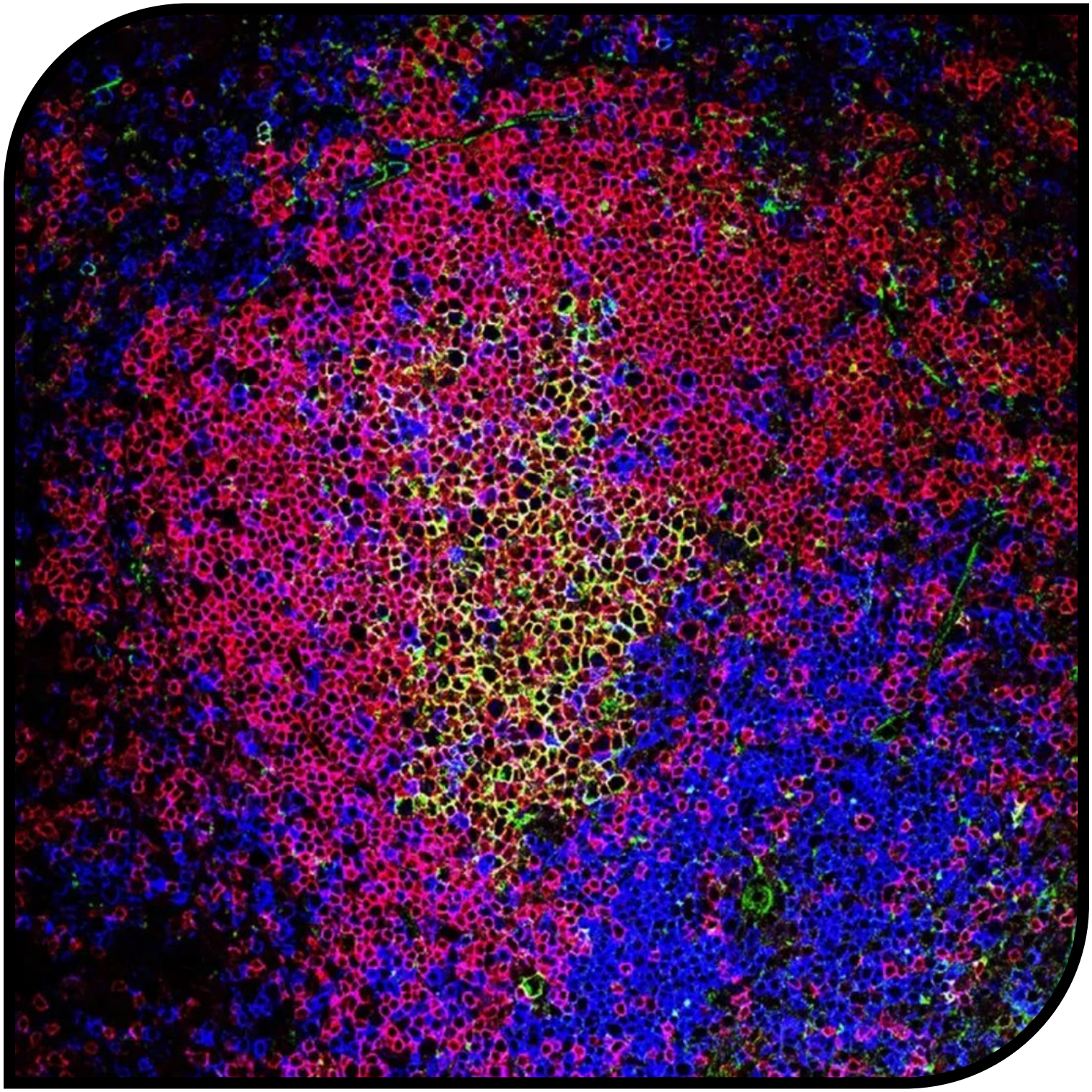
Michael Price



Structured illumination super resolution photomicrograph of a ciliated bovine airway epithelial cell labeled for acetylated alpha tubulin (cilia marker; green), phosphodiesterase 5 (red) and nuclei (blue).

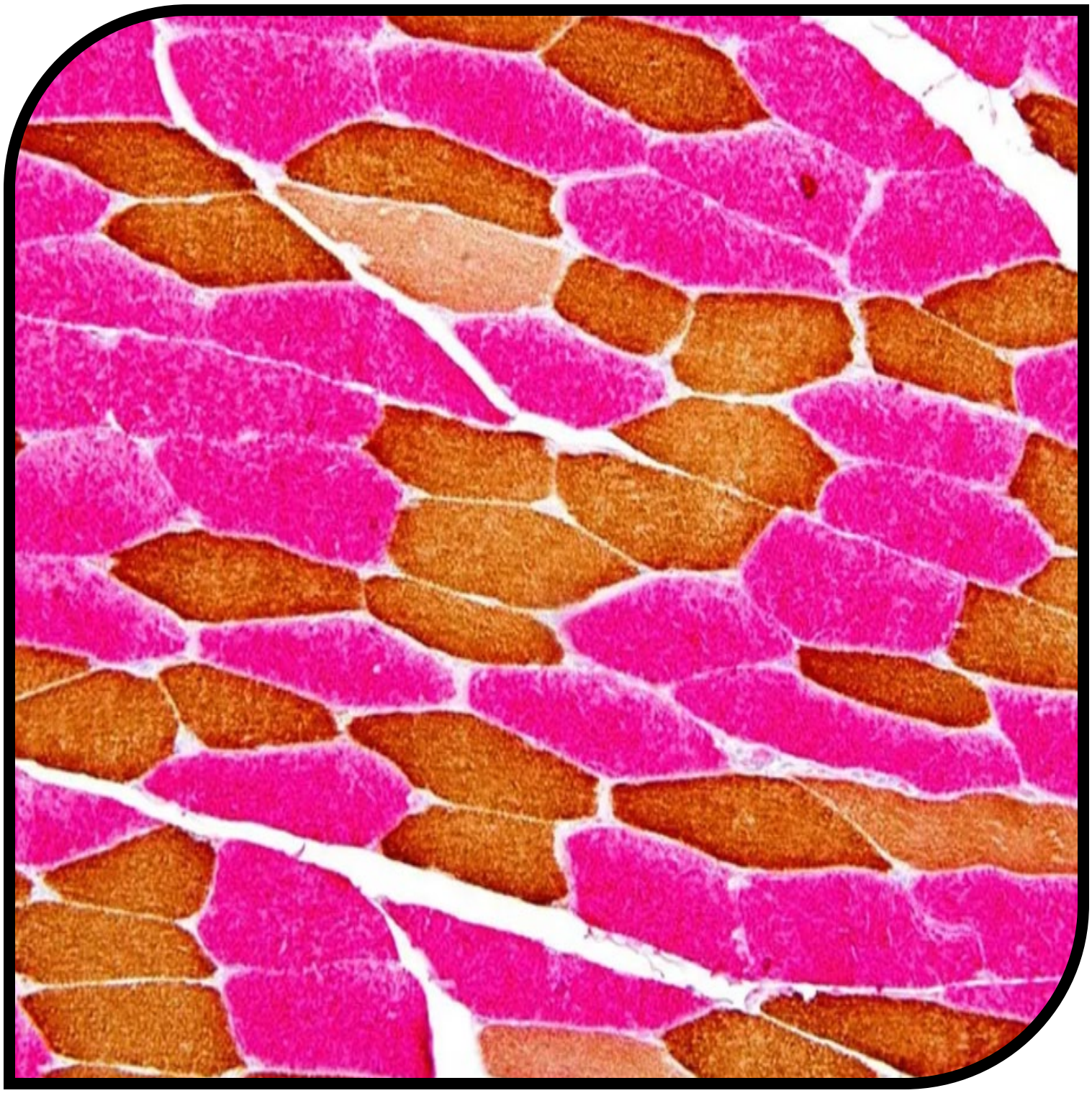
Products used: (H-1500)

Miriam Eckstein



Germinal center (GC) reaction in the spleen after acute viral infection. After recognition of viral antigens, T cells (in blue) migrate from the T cell zone into the follicle where they interact with B cells (in purple). The T cells ‘help’ B cells, instructing the formation of GCs (in green) in which virus-specific B cells undergo selection, class switching and somatic hypermutation to secrete anti-viral antibodies to clear the infection.

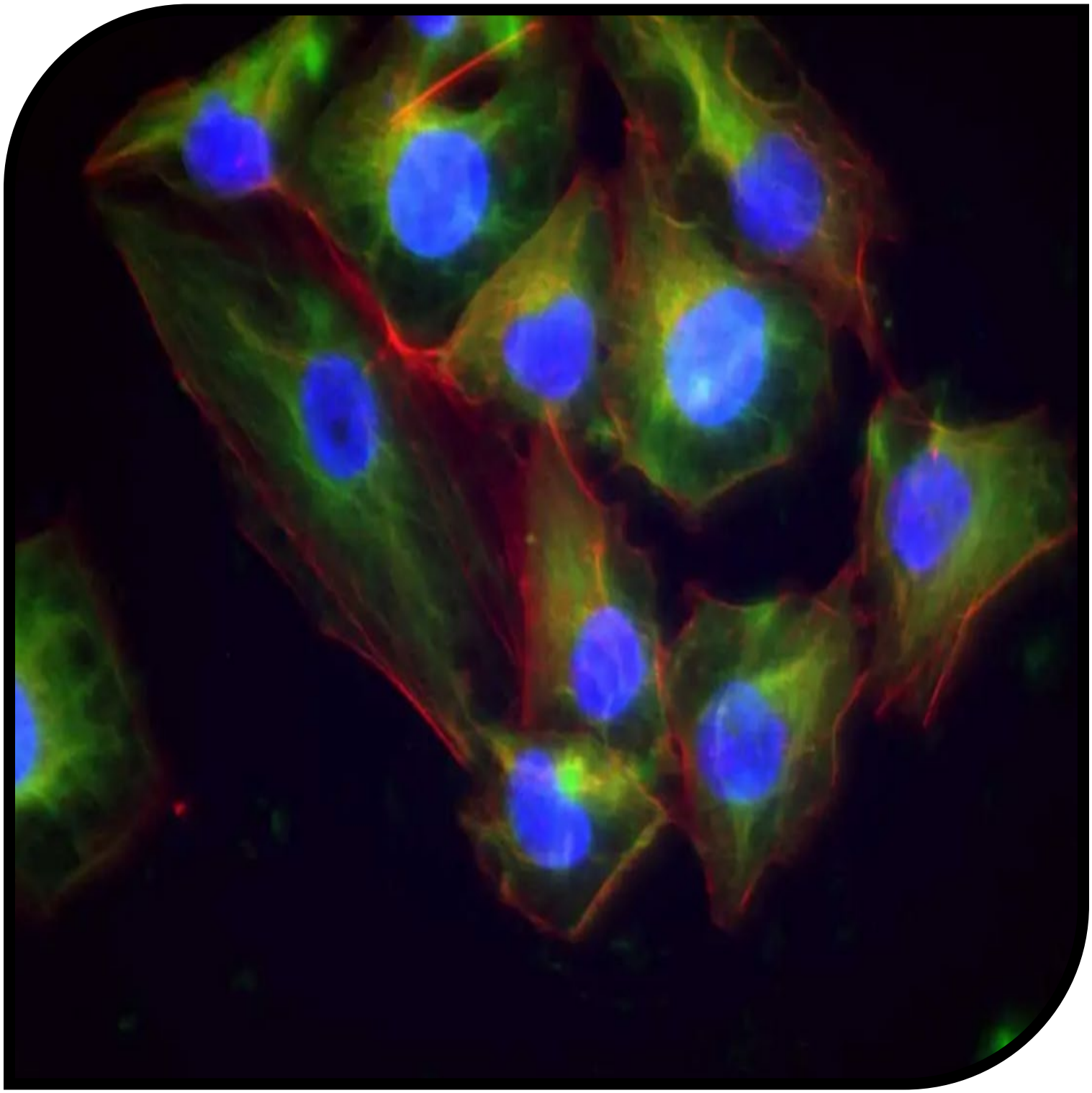
Products used: (B-1075) (H-1000) (H-3300)



Multiplex image: Myosin, slow (DAB)/Myosin, fast (Red) (20x).

Product used: (BA-2000)

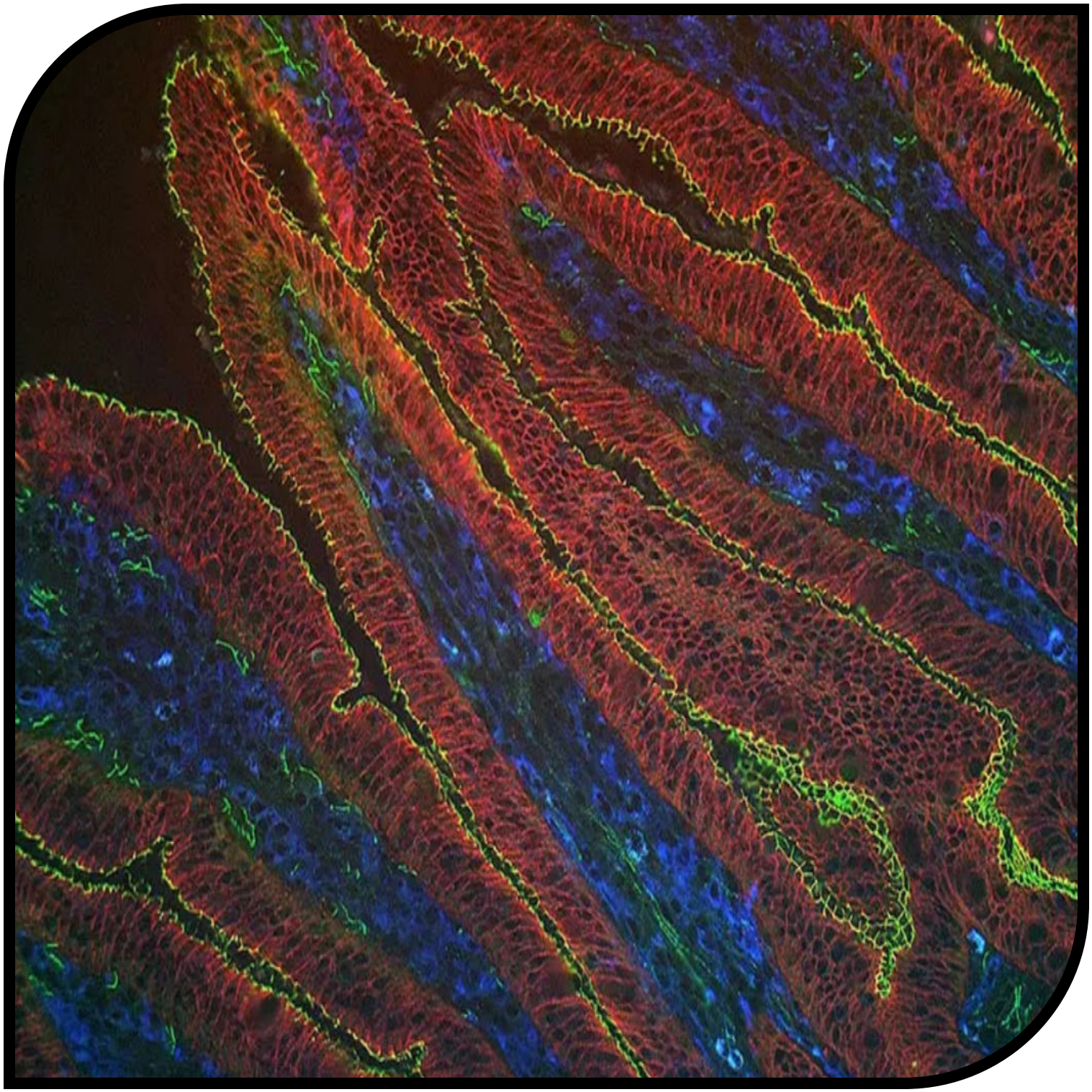
Alyson Evans + Penny Ottewell + Ingunn Hole



Gamma catenin immunofluorescence stain on T47D breast cancer cells.
Image provided by Mrs. Alyson Evans, Dr. Penny Ottewell, Prof. Ingunn Holen
University of Sheffield, UK

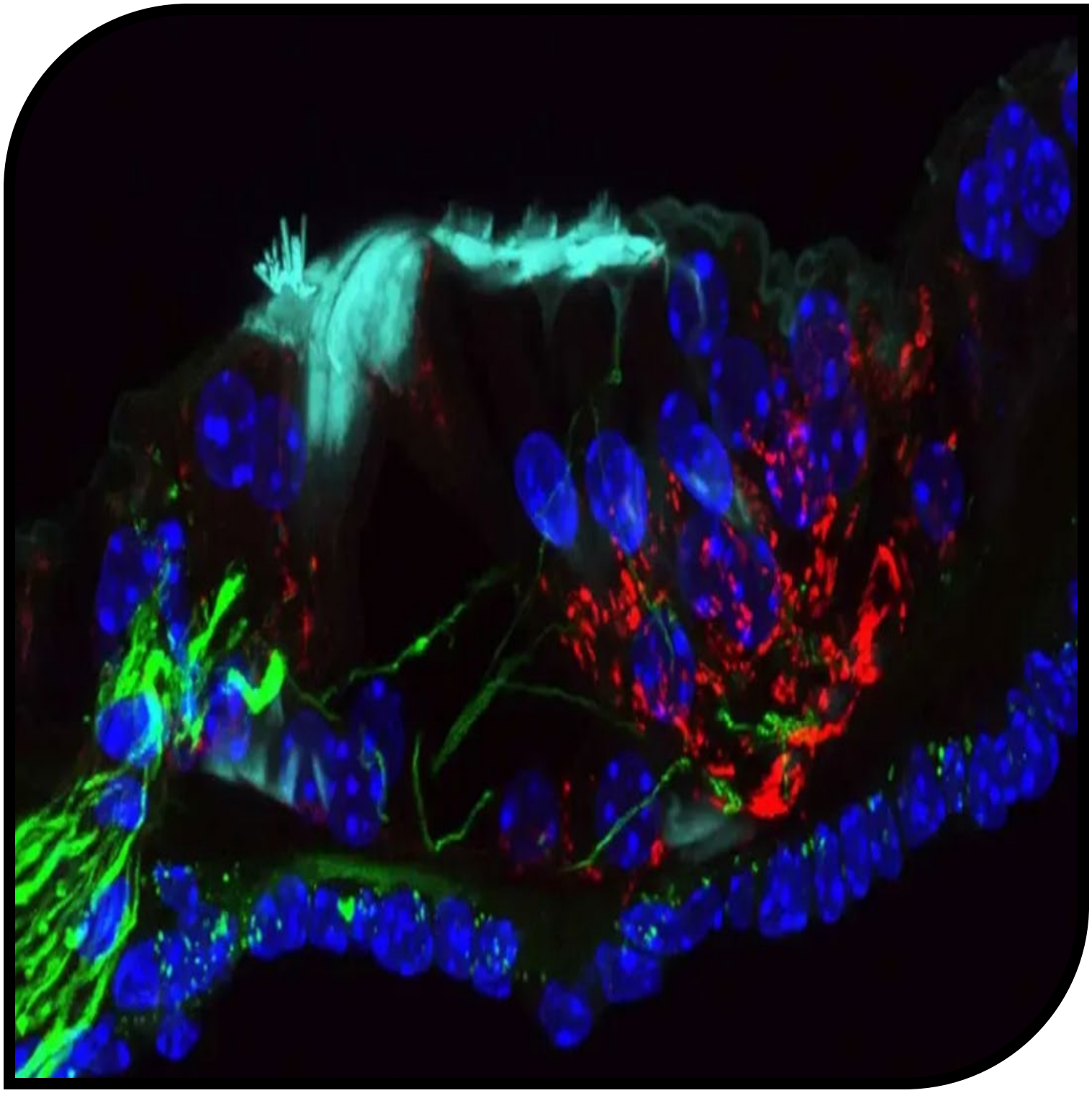
Products used: (SP-2001) (S-1000)

Marie Lewis



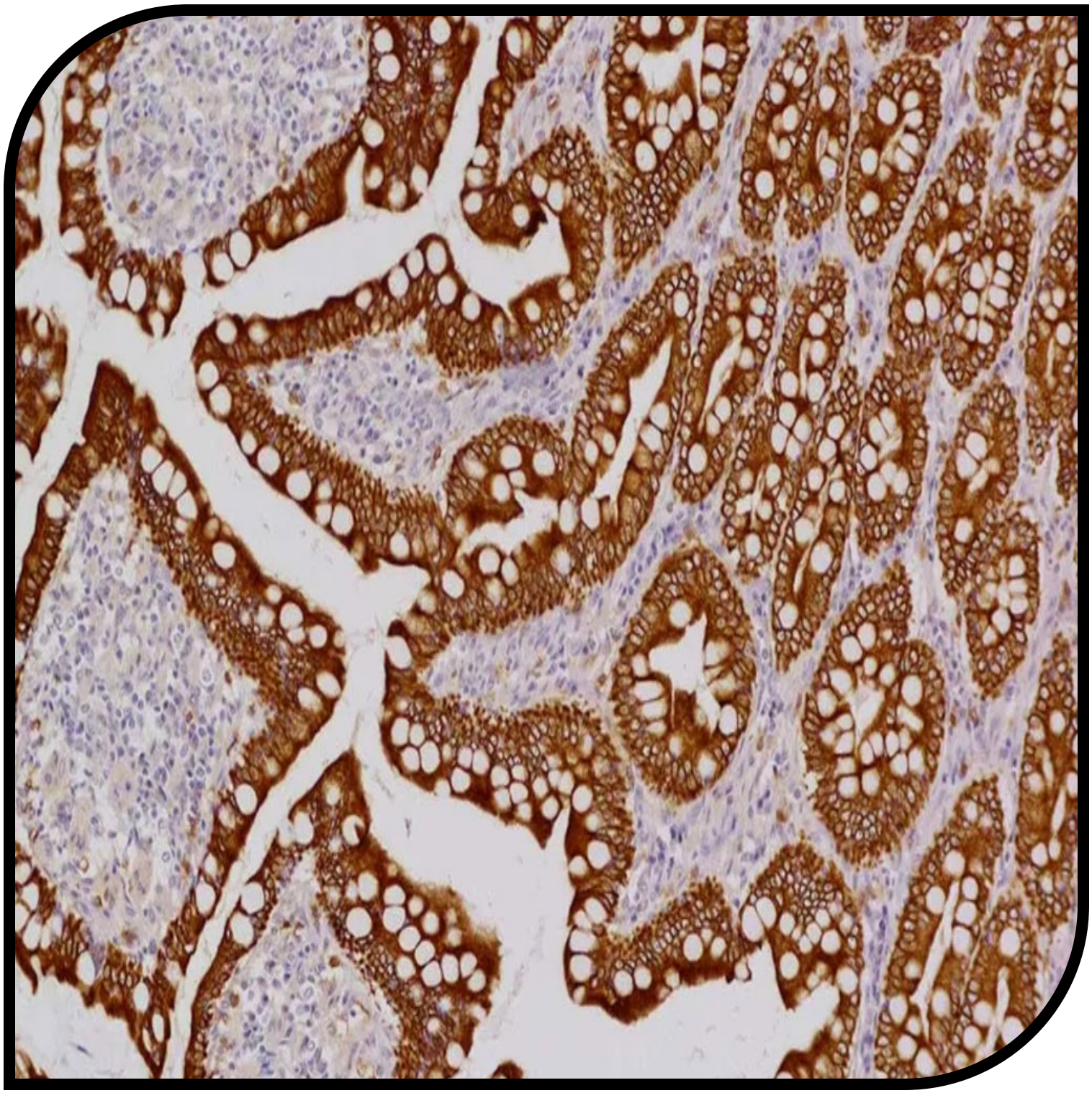
Intestinal villi in the pig jejunum. E-cadherin (red) ZO-1 (TCJ-associated protein, green) and CD16 (gut dendritic cells, blue).

Products used: (A-2008) (H-1000)



Adult organ of Corti labelled with anti-beta3-tubulin (green), phalloidin (cyan), anti-connexin30 (red) and DAPI (blue).

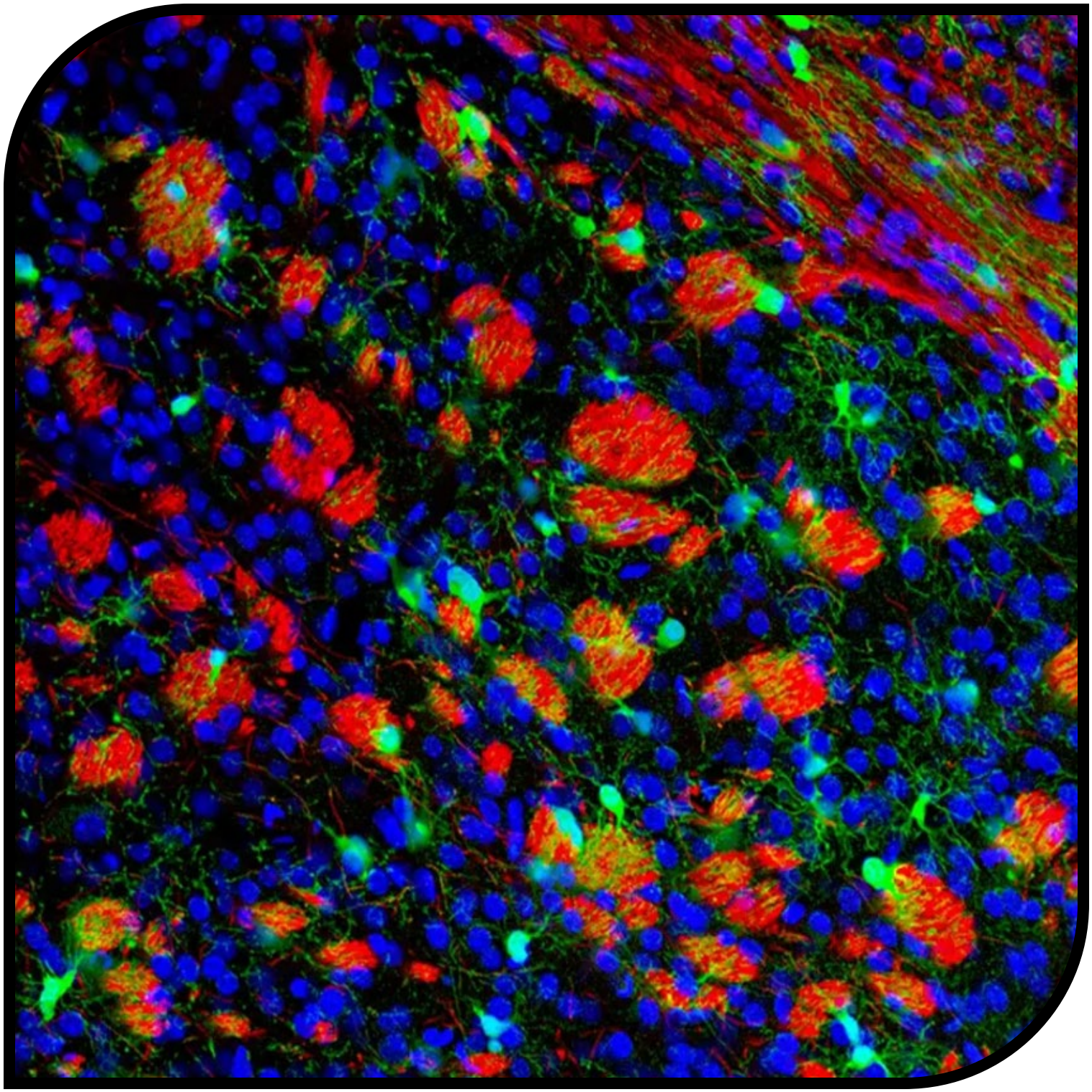
Product used: (H-1200)



Canine small intestine: Cytokeratin (MNF 116), ImmPRESS VR Reagent and DAB Substrate. Counterstained with hematoxylin.

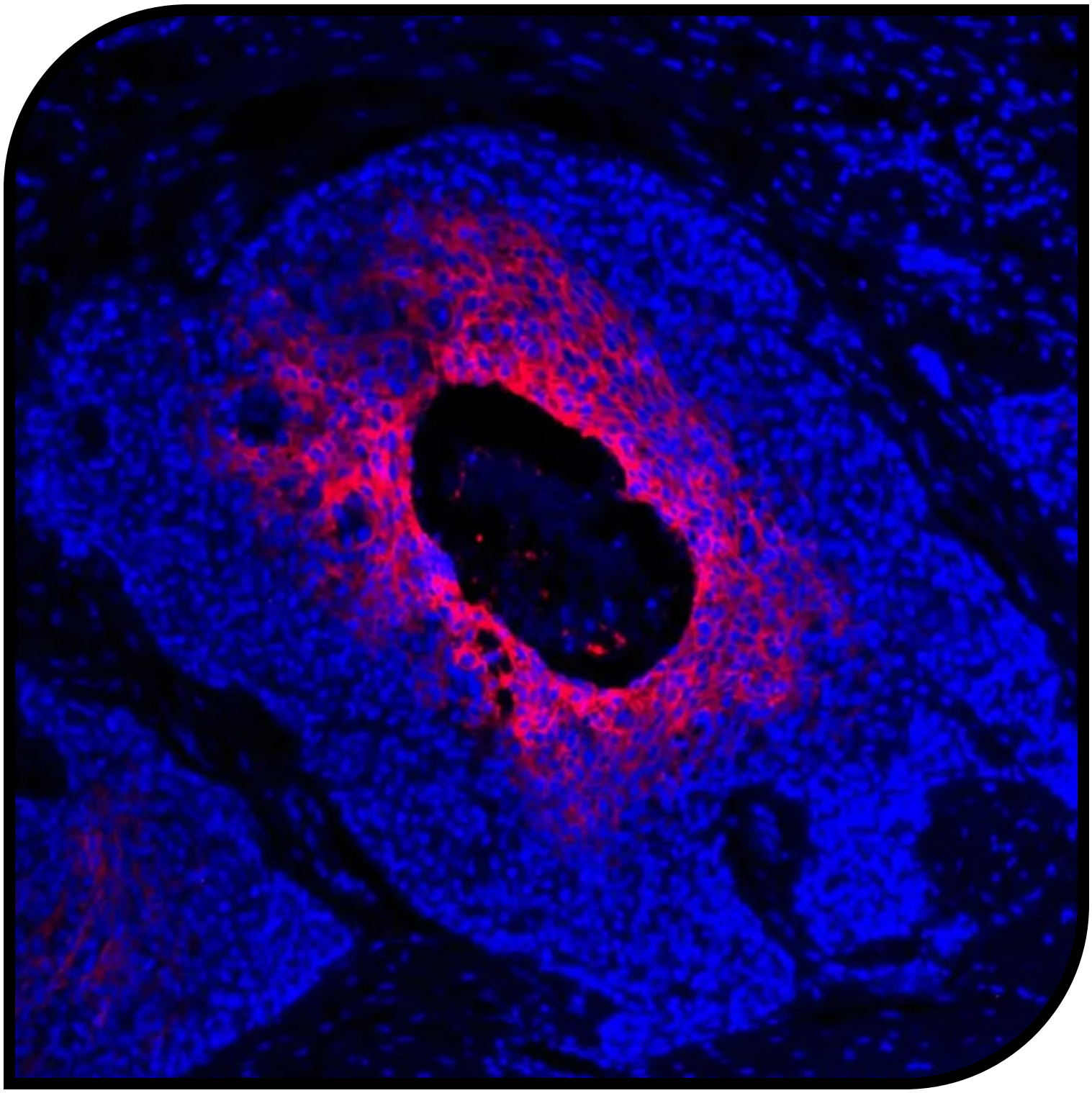
Products used: (MP-6402) (H-3404)

Andrea Domenico Rivera



Coronal section of a Pdgfra/Rosa26 transgenic mouse brain at postnatal day (P15). The image depict Myelin (Mbp; red) and oligodendrocyte precursor cells identified by the expression of GFP in the striatum. Cell nuclei are shown in blue.

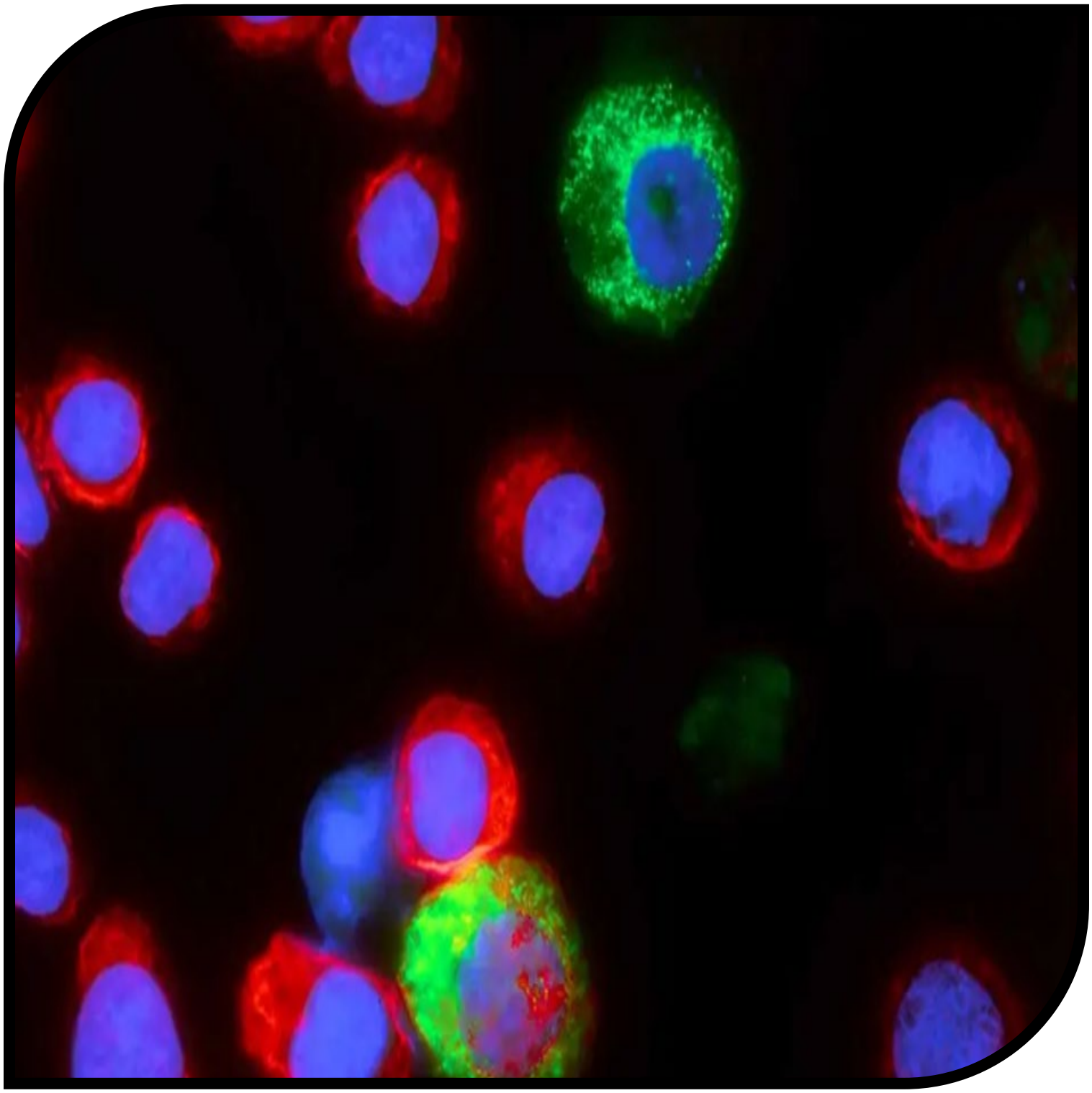
Product used: (H-1000)



Hypoxia within hyperplastic breast tissue. A section of human breast tissue labeled for CA IX using fluorescent immunohistochemistry, counterstained and mounted using VECTASHIELD HardSet Antifade Mounting Medium with DAPI.

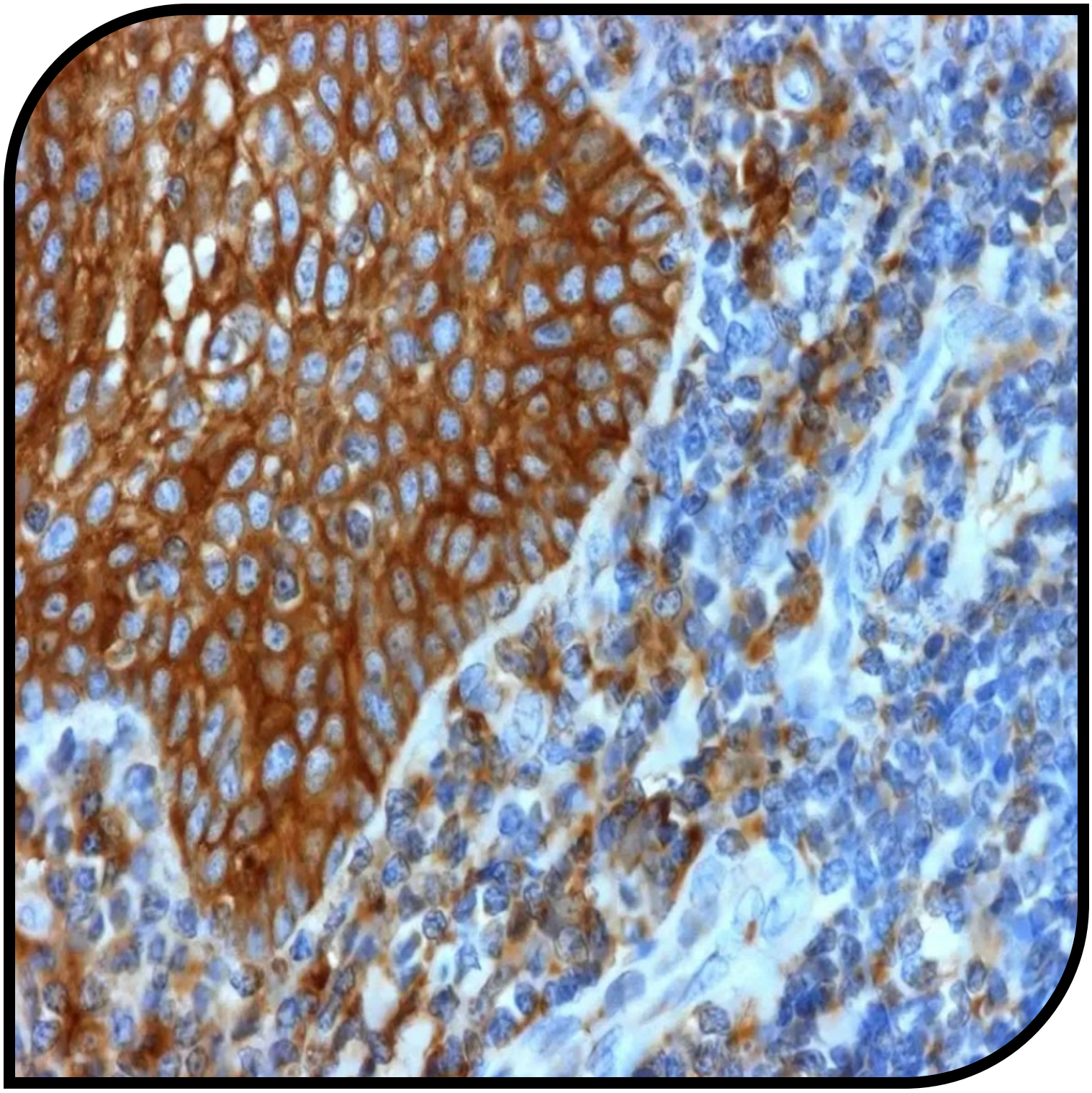
Product used: (H-1500)

Anthony Eason



Fluorescent multichannel image of the primary effusion lymphoma (PEL) cell line BCBL-1 which expresses HHV-8 in a latent state. Viral interleukin 6 (vIL6; green) is expressed by cells in which HHV-8 undergoes spontaneous activation from latency. Note relatively scant cytoplasm (actin stained with rhodamine phalloidin; red) compared to nuclei (stained with DAPI; blue). 100x.

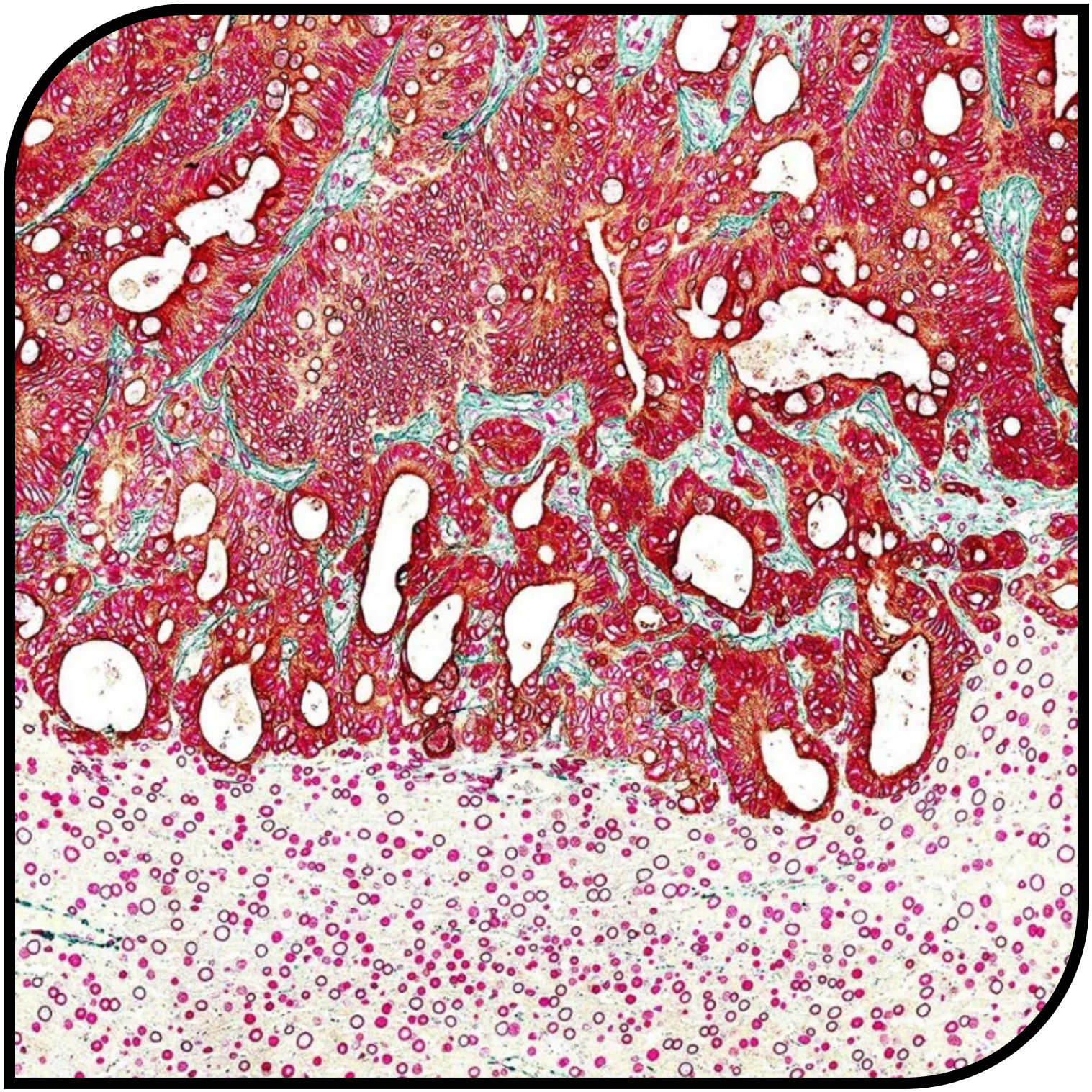
Products used: (S-1000) (H-1000) (FI-1000)



Tonsil: CD138 (mouse), ImmPRESS Excel Staining Kit Anti Mouse (40X magnification).

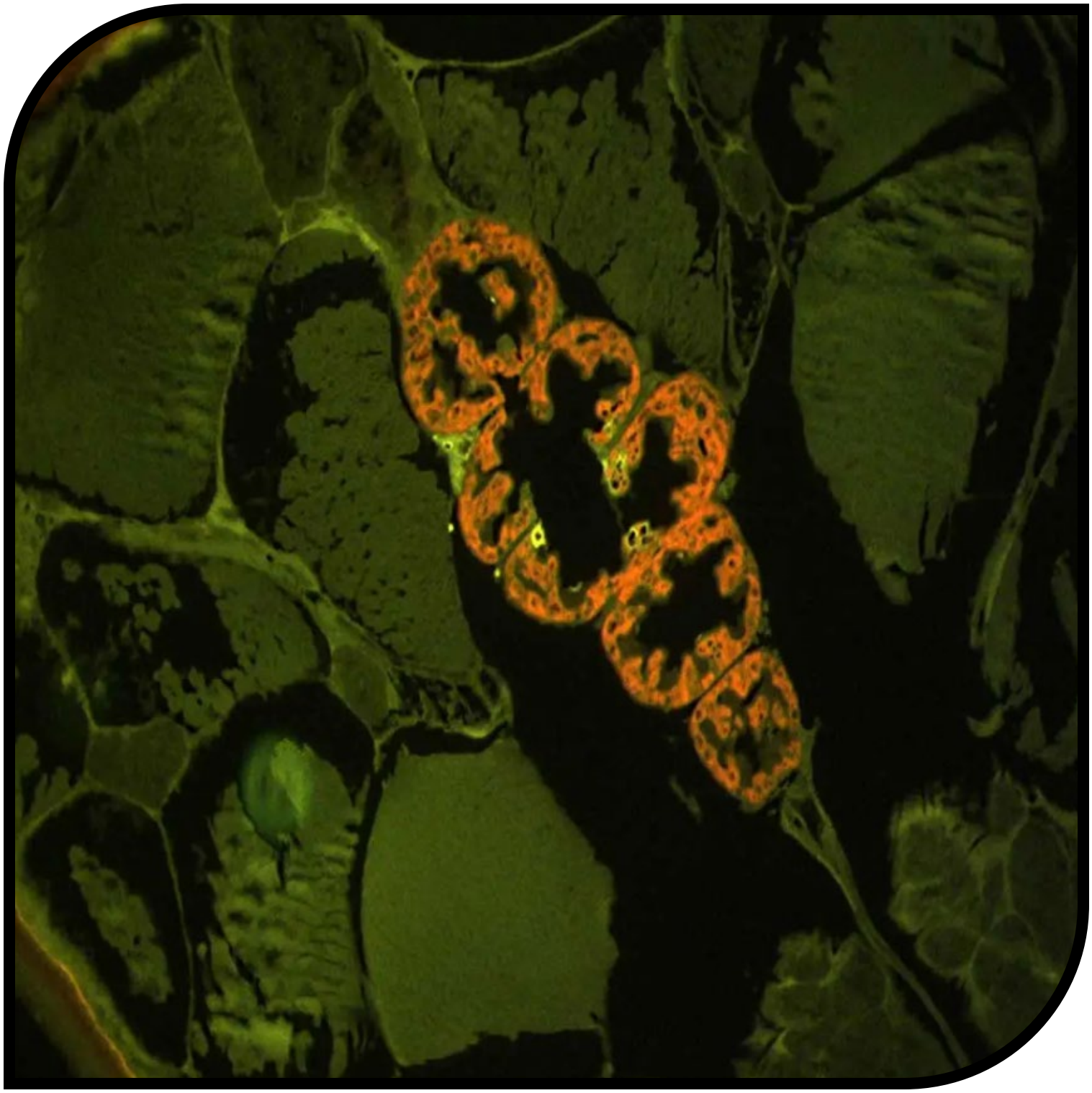
Products used: (H-3301) (SP-6000) (SP-5020)

Steffen Rickelt + Jatin Roper



This image shows a section through a mouse liver in which human colorectal cancer-derived organoids (orthotopically-transplanted in the mouse colon) have spread. This liver metastasis shows the invading tumor front (keratin-20, brown tumor cell) – growing from the top of the images towards the bottom – embedded in increasing surrounding connective tissue (fibronectin, green fibers). All nuclei of human tumor cells and the mouse hepatocytes in the lower part of the image were stained with a nuclear membrane marker (lamin A, red round shapes). Slight green staining in the lower part of the image shows connective tissue that surrounds blood vessels in normal liver tissue.

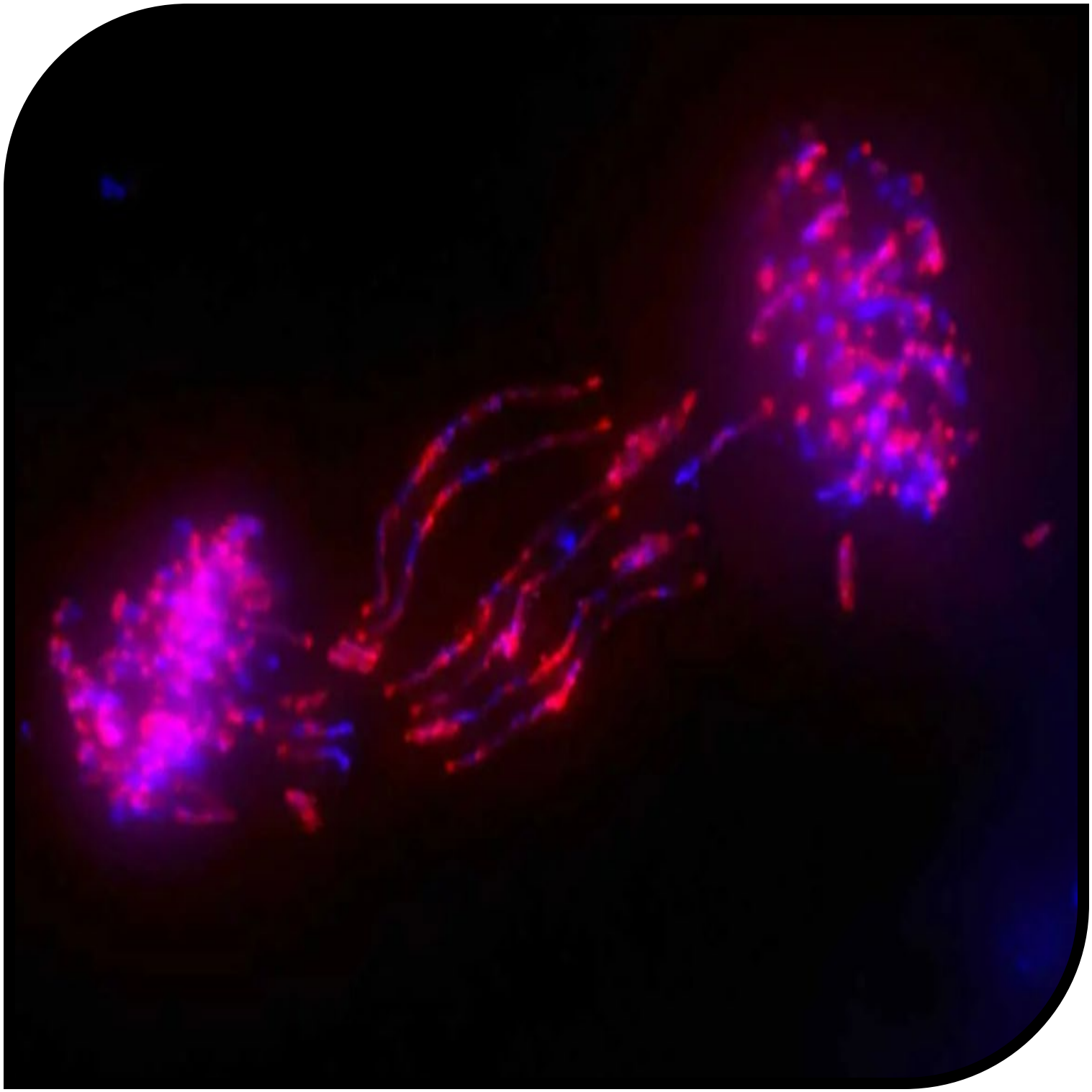
Products used: (SP-6000) (MP-7401) (MP-5402)



Transcript localisation of trypsin in the gut of the salmon louse, Lepeophtheirus salmonis, using fluoresence in situ hybridization.

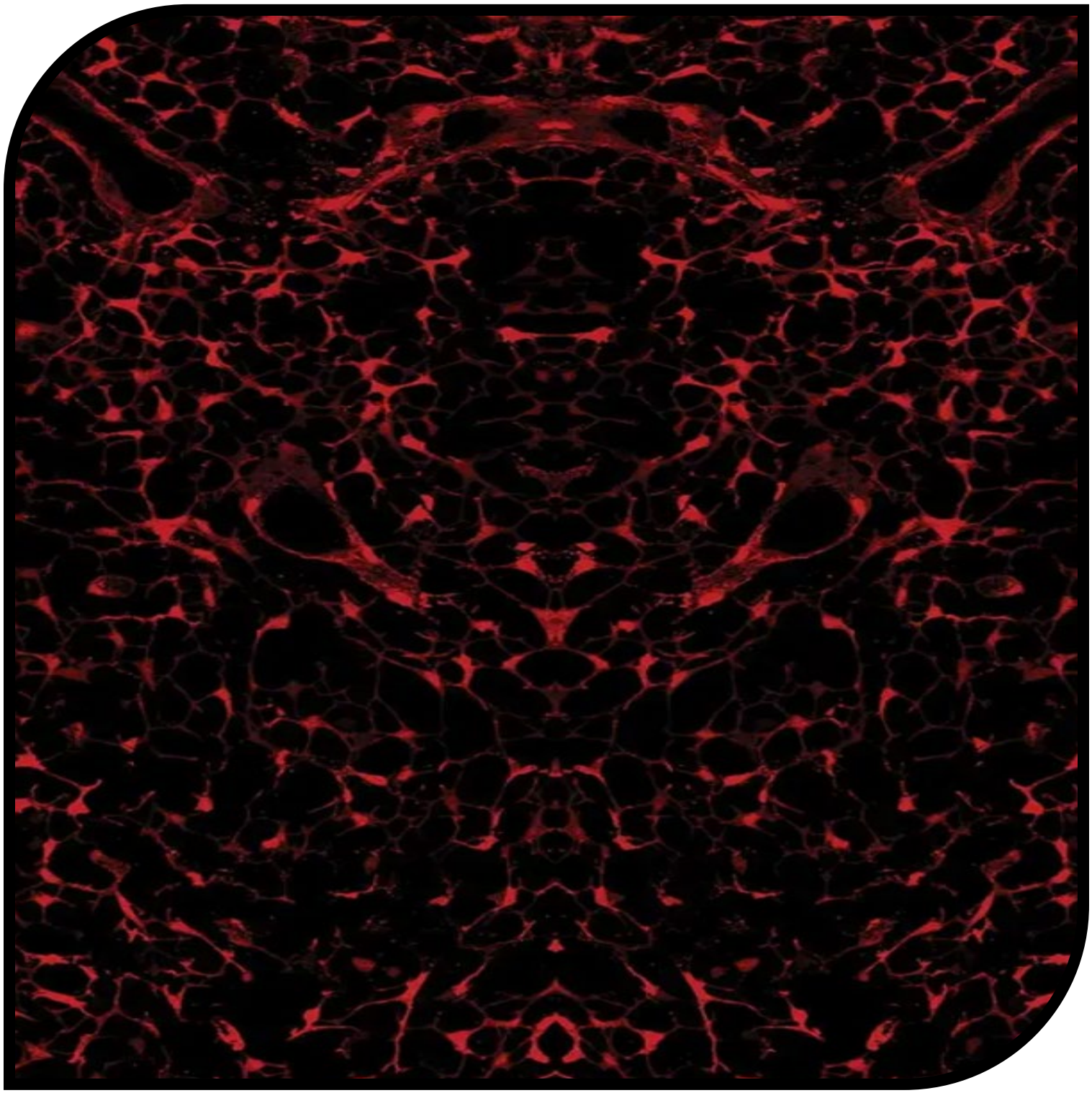
Products used: (H-5501) (SP-5000)

Vladimir Timoshevskiy



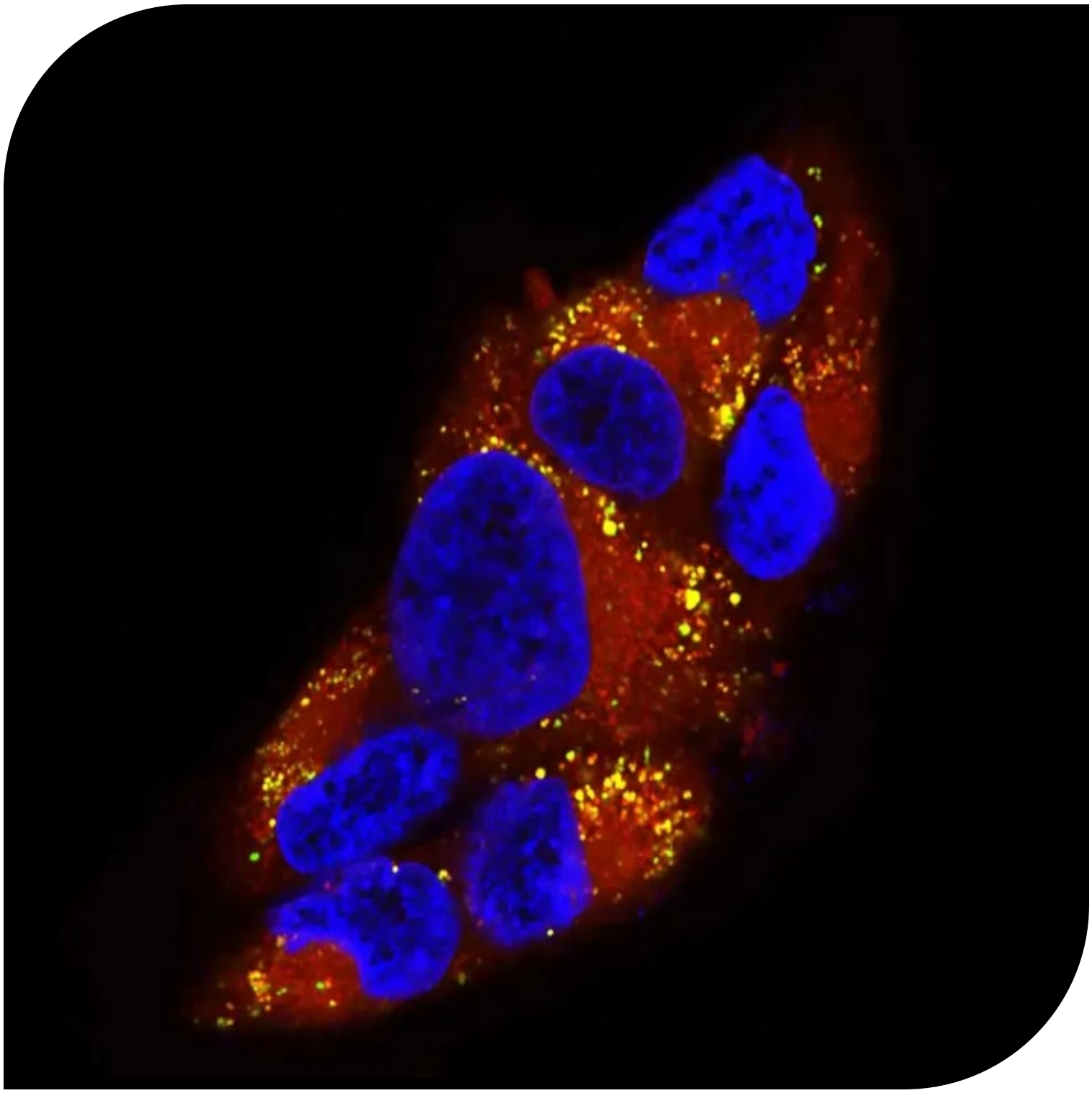
Anaphase of Lamprey embryonic cell during chromosome elimination with multiple bridging chromosomes, hybridized with a probe to repetitive DNA (Cot 2 FISH). Punctate signals corresponding to centromeres are oriented toward the spindle poles, but lag behind retained chromosomes. Sites of apparent contact between sister chromatids hybridize strongly to Cot 2 DNA, suggesting that repetitive DNA may participate in establishing these contacts.
The sea lamprey (Petromyzon marinus) represents one of the few vertebrate species known to undergo large-scale programmatic elimination of genomic DNA over the course of its normal development. Our analysis revealed reproducible subcellular features that are associated with the differential segregation of retained and eliminated DNA.

Product used: (H-1200)



Rorschach test: stromal cell networks in the lymph node.

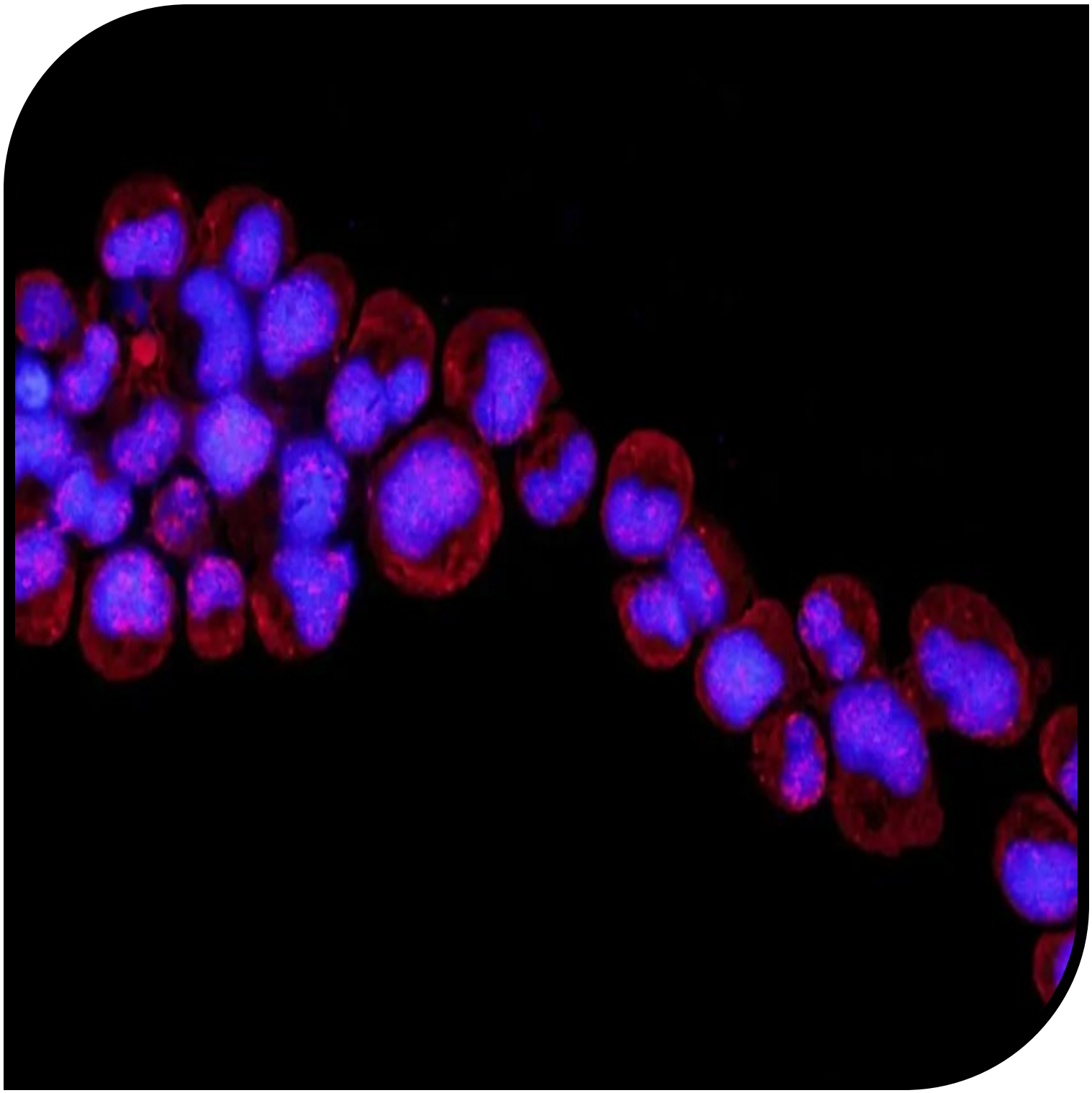
Product used: (H-1000)



Subcellular colocalization of nanoparticles in lysosomes.

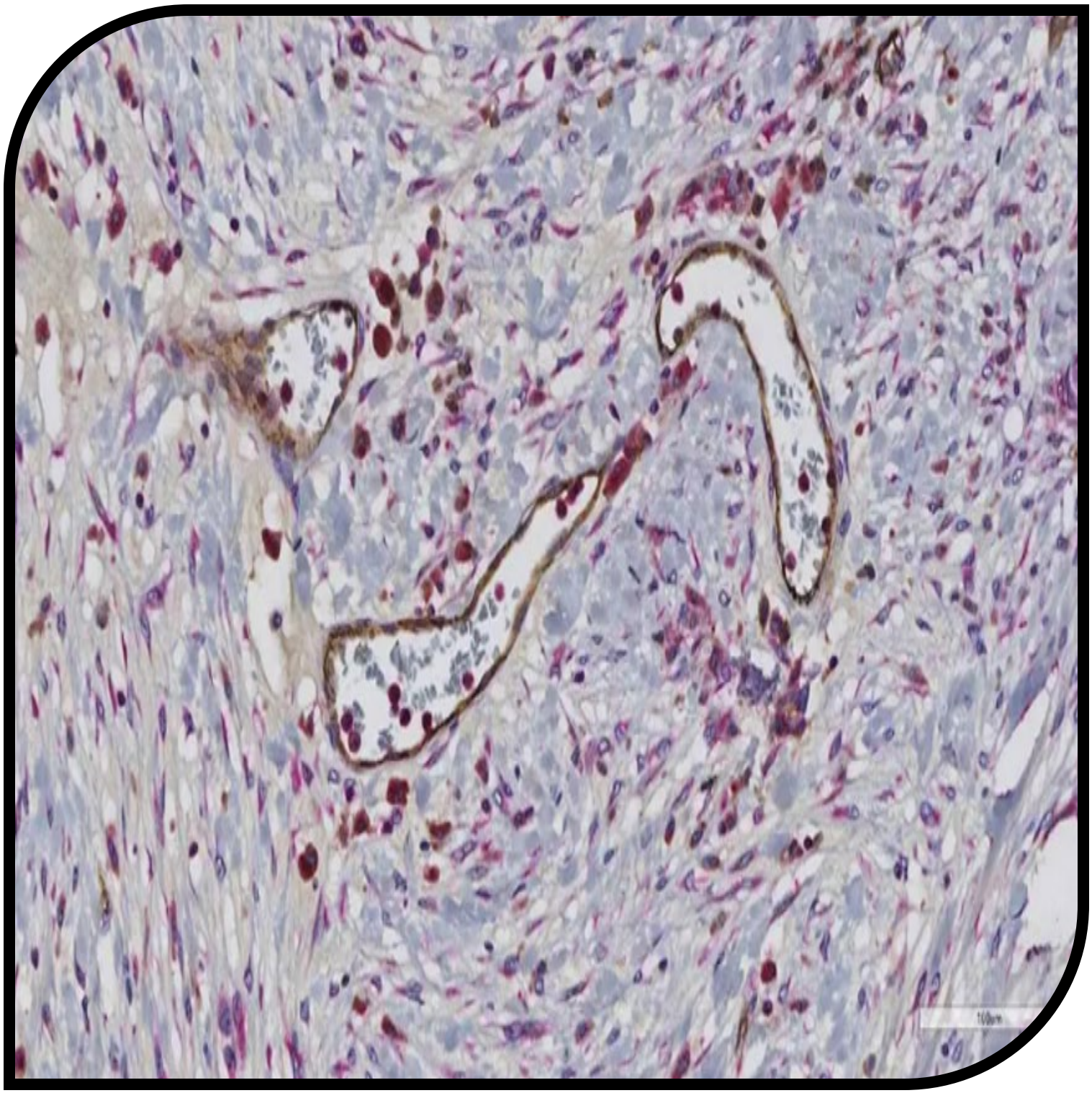
Product used: H-1200

Rebecca Nelson



Human Jurkat (E6-1) cells were stained immunofluorescently for the NKG2D ligand, ULBP2.

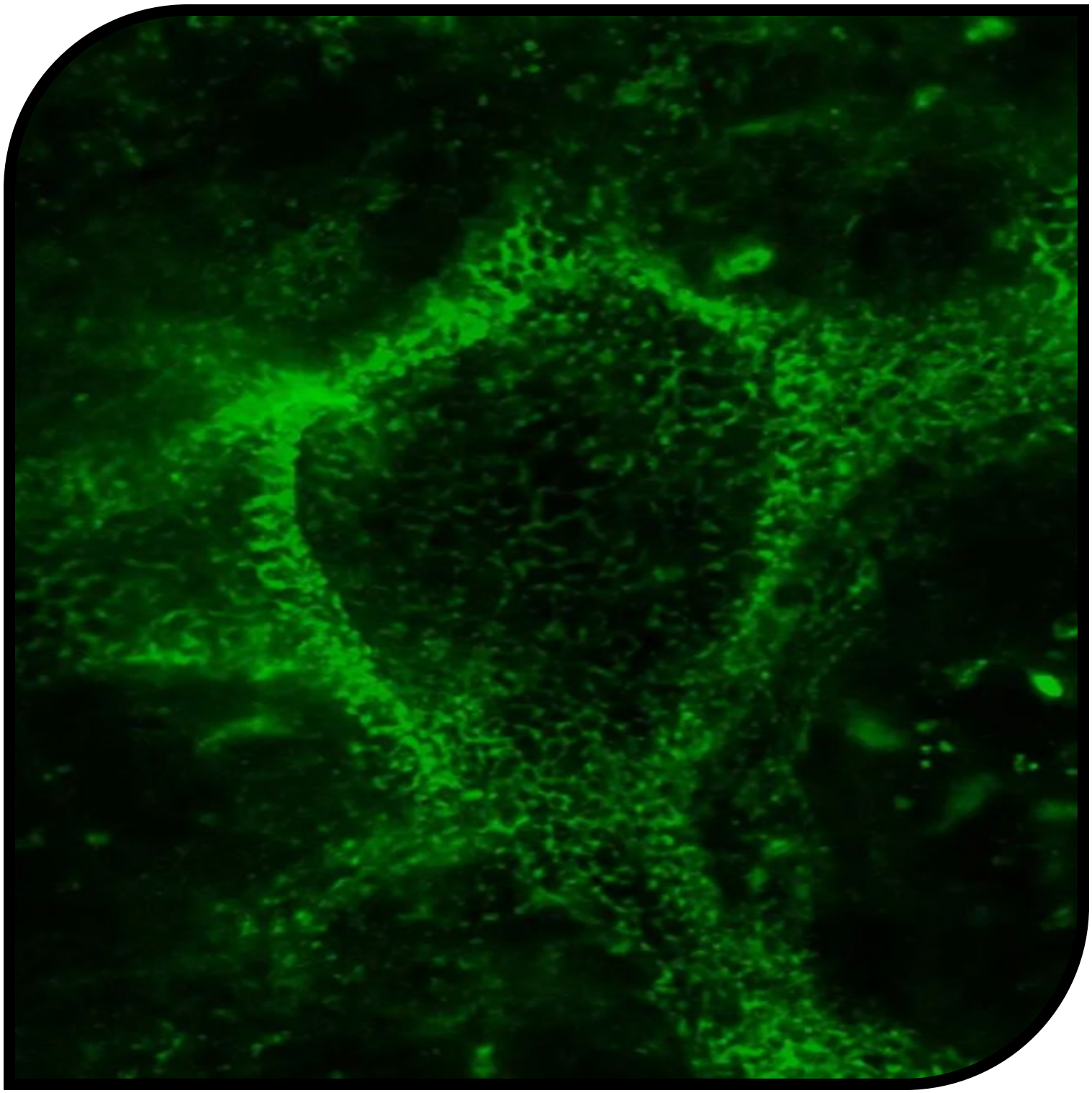
Product used: (DI-1594)



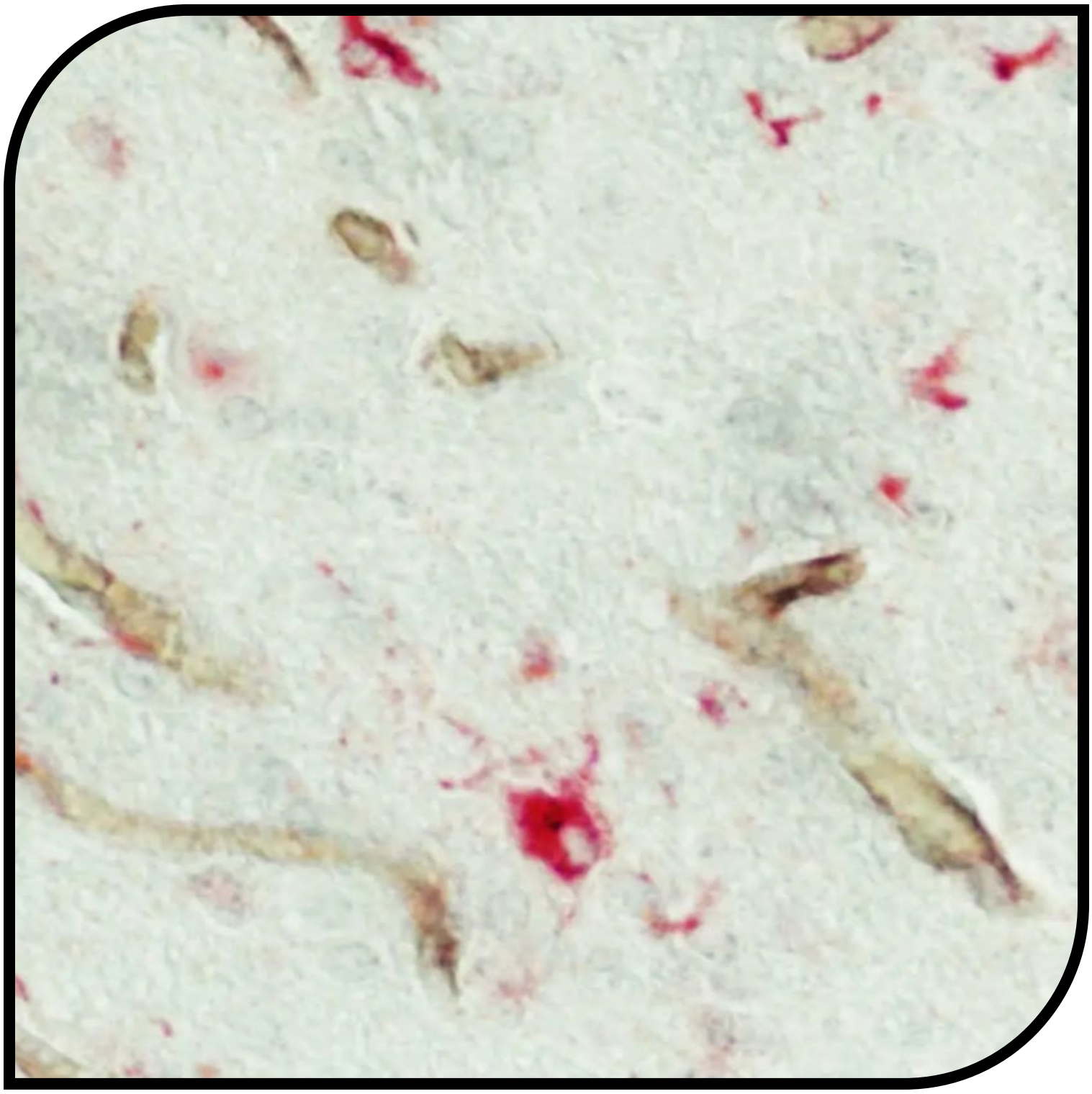
Breast carcinoma: CD31(m), ImmPRESS HRP Anti-Mouse IgG, ImmPACT DAB HRP Substrate. MRC1 (r), ImmPRESS-AP Anti-Rabbit IgG, ImmPACT Vector Red AP Substrate

.

Products used: (SK-4103) (SK-5105) (MP-7402) (MP-5401)

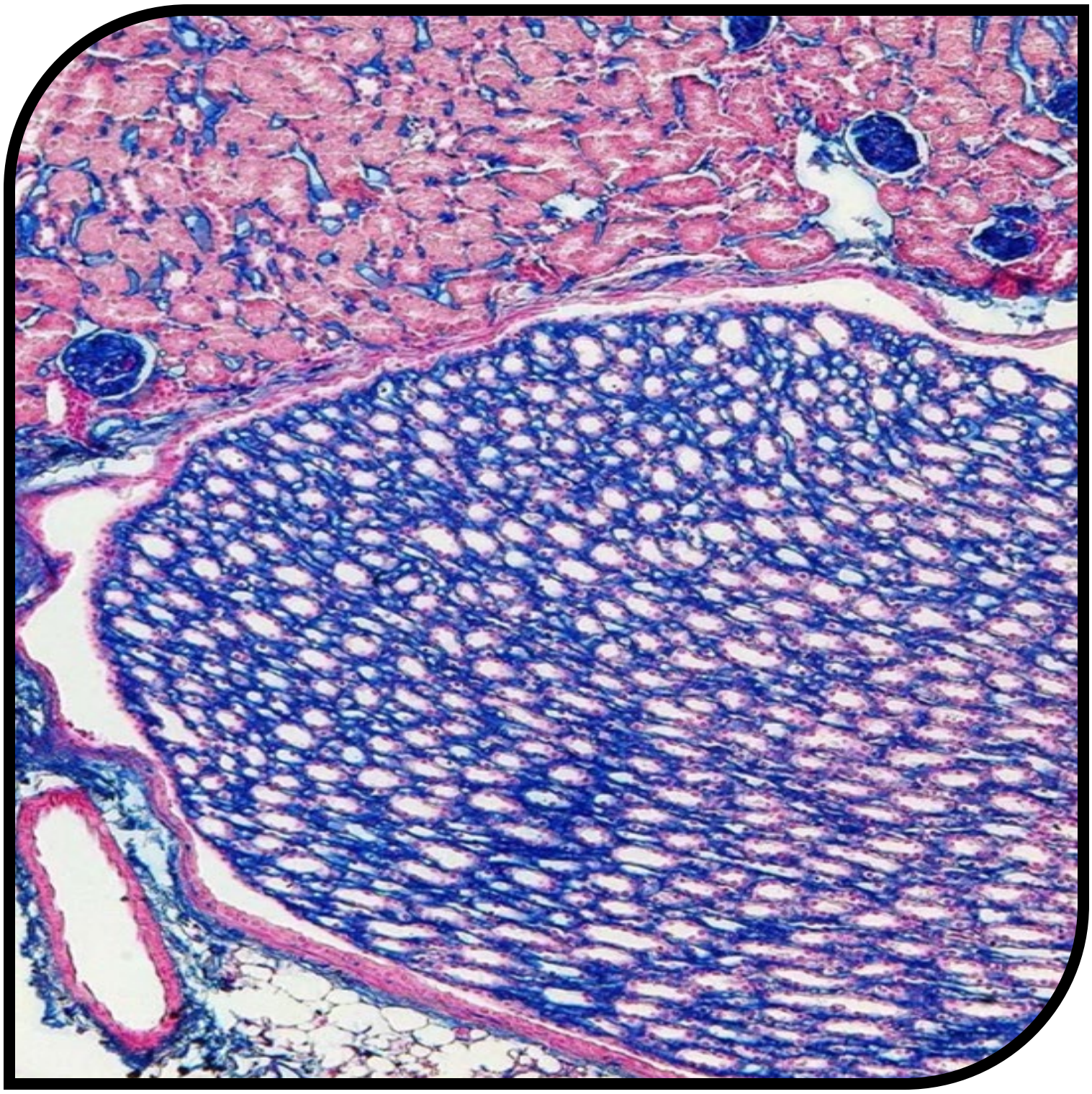


Perineuronal net engulfing a brainstem neuron. The hollow bowl like structure is surrounding parvalbumin inhibitory interneuron
.
Product used: (FL-1351)



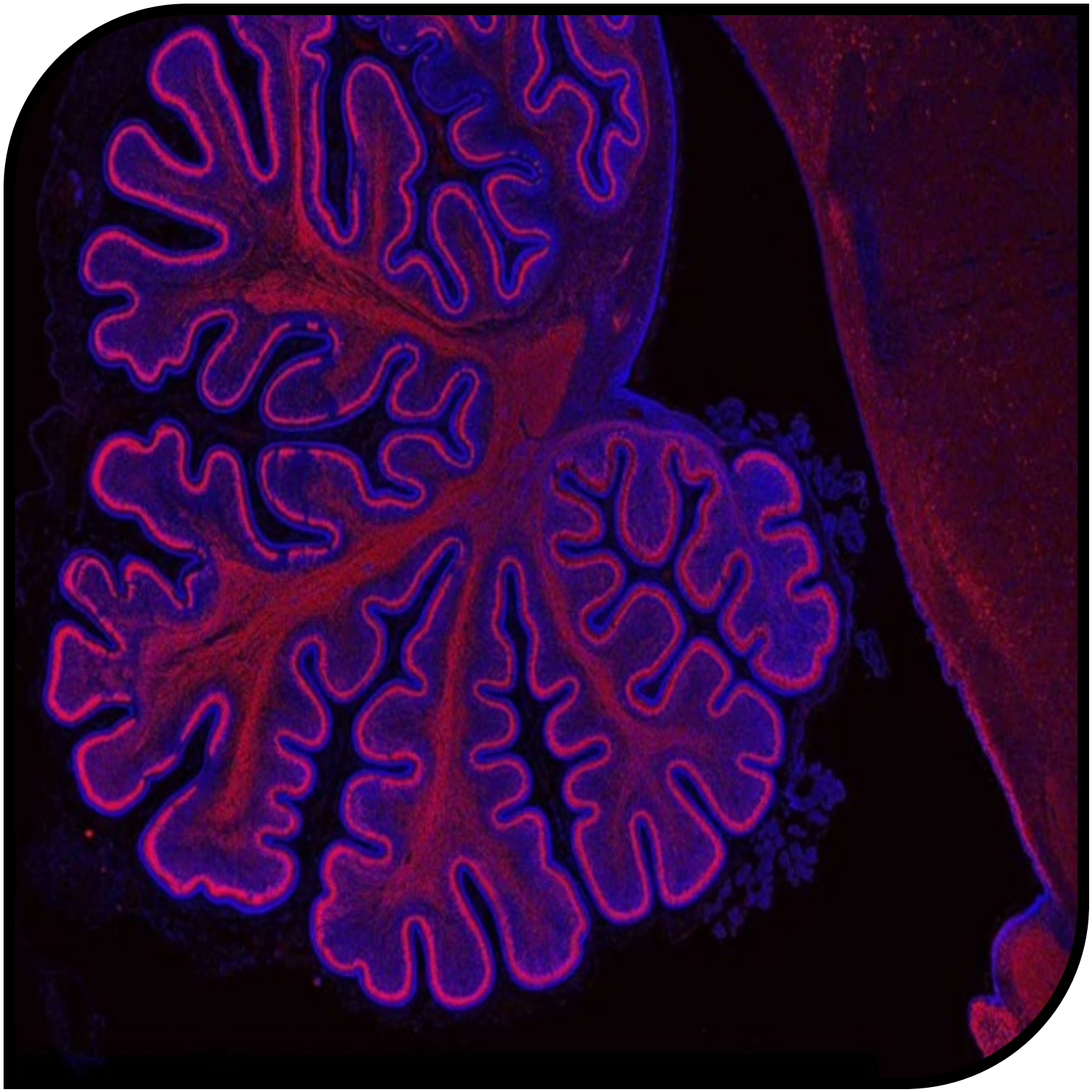
Lamb cerebrum tissue was incubated with a mixture of mouse anti-Nestin and rabbit anti-P-Glycoprotein overnight at 4C, followed by a mixture of anti-mouse IgG (made in goat) and biotinylated anti-Rabbit IgG. Afterward, the signal for Nestin was amplified using an anti-Goat IgG-AP conjugate and visualized with ImmPACT Vector Red AP Substrate. Then P-Glycoprotein was detected using the VECTASTAIN Elite ABC kit and visualized with DAB (Nickel) HRP Peroxidase Substrate.

Products used: (H-3301) (BA-1100) (AI-9200) (AP-9500) (SK-5105) (SK-4100)



This image captures the diversity of structures that, working together, are able to form the powerful and unique entity of a functional mouse kidney. Maakia amurensis II (MALII) staining in blue and nuclei in pink. Magnification 10x.

Products used: (B-1265) (SK-5300) (H-3403) (H-3301) (SP-2002) (SP-5040) (AK-5000) (H-5000)



A cross section of the developing human cerebellum.

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Product used: (H-1200)

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