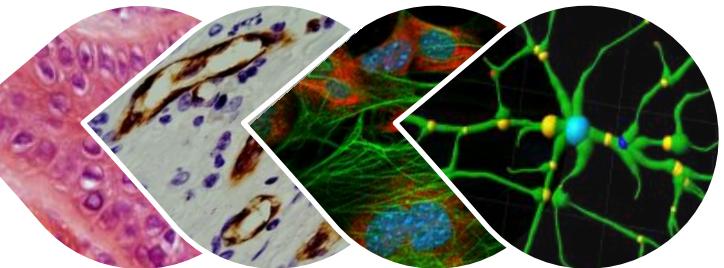


Histospeck

LTD



Histology, Cytology, Image Analysis & Scientific Consultation Services

For details: Dr. Itay Spektor



+972-50-4690708



Itay@histospeck.com



www.histospeck.com

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Our Histology services include:

- **Blocks preparation & sectioning**- Paraffin/ Frozen {soft/calcified tissue; Paraffin- Cell block- for Antibodies calibration/*In-Vitro* experiment; Tissue Microarray (TMA)}.
- **Routine stainings** (H&E, Picro-Sirius Red, Masson's Trichrome, Toluidine Blue, Safranin O. etc.).
- **Antibodies literature search** and **antibodies calibration**.
- **Cell adhesion to slides** (Cytospin)+ Antibodies ICC calibration- various **Fixation and permeabilization methods**.
- **Immunohistochemical staining**- (fluorescence/non fluorescence), Including **OPAL Multiplex**-
IHC: for tissue/TMA/cell block
ICC: for cell culture*/Body fluids*/Cytospin attached cells.

*Including CytoTIME- a unique developed method for preservation & ICC of Body fluids cells & Cell culture.

- **Image acquisition** (fluorescence/non fluorescence)+ **whole slides scanning** services.
- **Quantitative Image Analysis for stainings- Algorithm/Machine Learning based**- from H&E, HRP/AP, Fluorescence.
✓ #cells & cells populations// Signal Intensity // Distance between cells.
- **3D models reconstruction** from fluorescence confocal dataset+ Volumetric Analysis.
- **Statistical Analysis**.
- **Histological report**.
- **Pathological report** (by certified pathologists).

<u>Legend:</u>
IHC - Immunohistochemistry
ICC - Immunocytochemistry

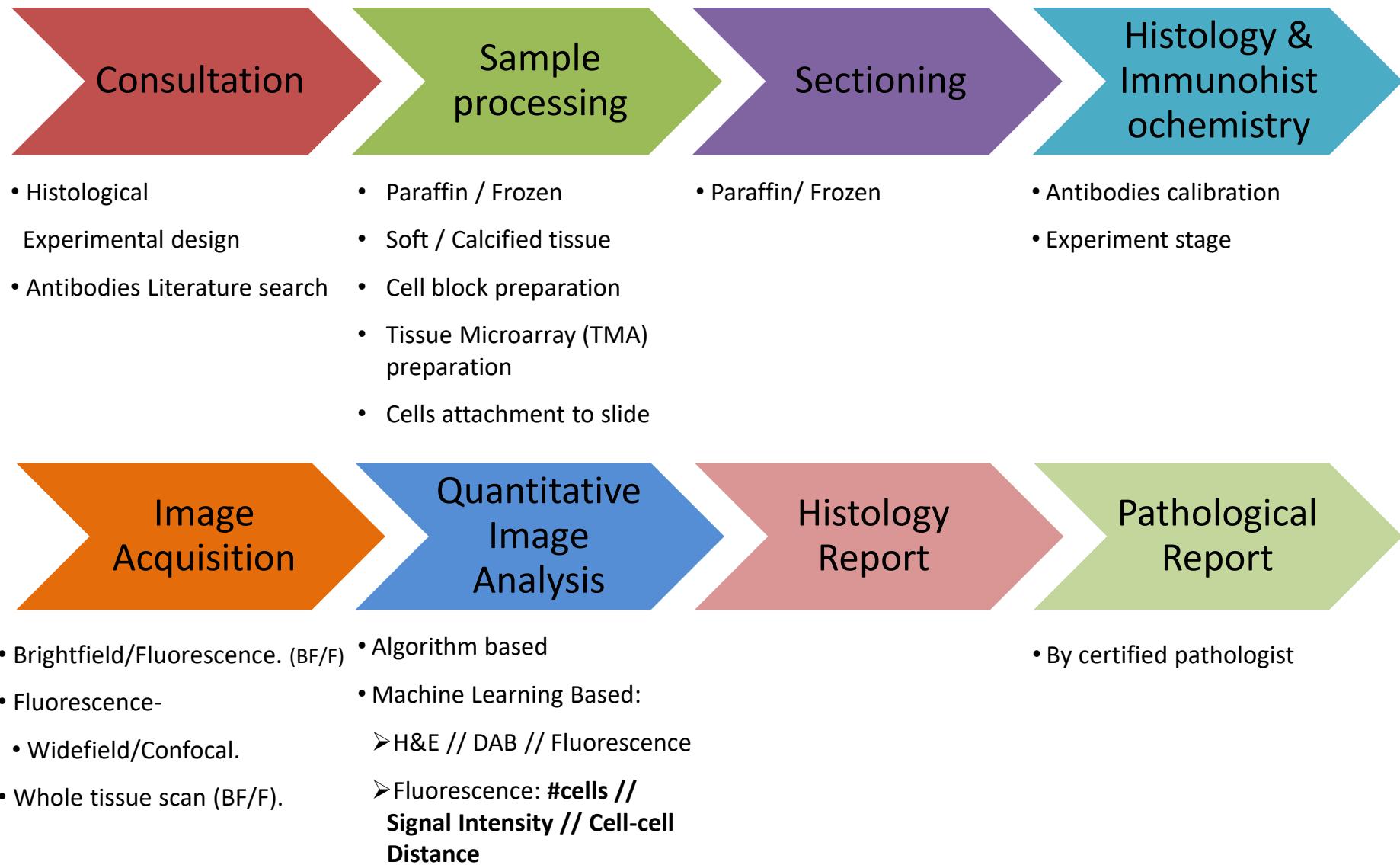
פירוט שירותי הריאתולוגית והאנליזה אוטם אנו מספקים:

- **הכנת בלוקים- פרפין/ קריו { רקמה רכה/ עצם; פרפין- בלוק תאים לכיוֹל נוגדים/לניסוי; הכנה TMA- Tissue Microarray}**
- **צביעות רוטיניות (H&E, Picro-Sirius Red, Masson's Trichrome, Toluidine Blue, Safranin O..).**
- **חיפוש ספרותי וכיוֹל נוגדים.**
- **הצמדת תאים לסליד (Cytospin) + כיוֹל נוגדים בשיטות פיקסציה + פרמאנטיליזציה שונות.**
- **צביעות אימונוהיסטוכימיות (פלורסנטית/לא פלורסנטית-AP/HRP, כולל OPAL Multiplex).**
- **CISH- ל-רקמה/ בלוק תאים/TMA.**
- **ICC- ל-תאים בתרבית*/ נזלי גוף*/ תאים שהוזמדו ב- Cytospin.**
- ***כולל CytoTIME- שיטה ייחודית לשימור -ICC של תאים מנזלי גוף ותאים מתרביה.**
- **צילום סלידיים (פלורסנטית/לא פלורסנטית)+ שירות סריקת סלידיים .**
- **אנליזה כמותית של צביעות (mbosst אלגוריתמים/ מבוססת למידת מכונה)- ממציאות E&H, AP/HRP, פלורסנטיות.**
 - ✓ מס' תאים & אוכלוסיות תאים // עוצמת ביוטי חלבוניים // מרחק בין תאים & אוכלוסיות תאים.
- **הכנה מודלים תלת-ממדיים של צביעות אימונו-פלורסנטיות (+אנליזה 3D).**
- **אנליזה סטטיסטית.**
- **דו"ח ריאתולוגי.**
- **דו"ח פתולוג ע"י פטולוג מוסמך (הומני/ טרינרי).**

מקרה:

CISH- אימונוהיסטוכימיה
ICC- אימונוציטוכימיה

Histology & Image Analysis Process:



Histology & Image Analysis Process:

1. Consultation

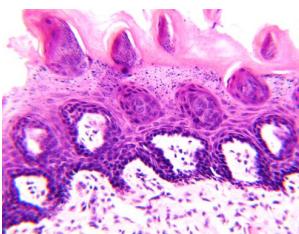
- Histological Experimental design
- Antibodies Literature search

3. Histology & Immunohistochemistry (+OPAL)

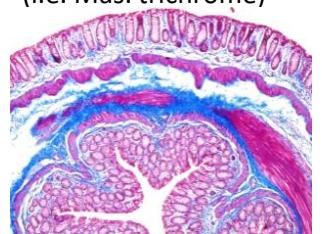
- Antibodies calibration • Experiment stage

Soft tissue

H&E

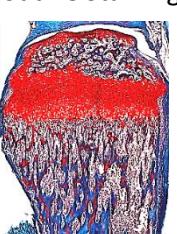


Routine stainings
(i.e. Mas. trichrome)

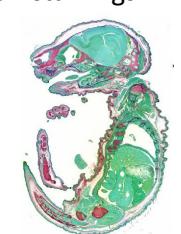


De-calcified tissue (bones)

H&E &
Routine Stainings

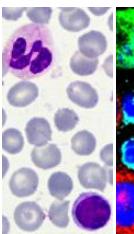


Newborn
stainings

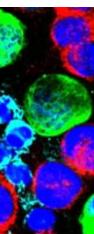


Body Fluids

Giemsa

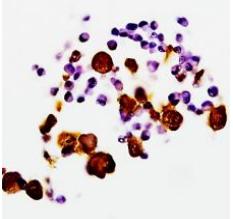


IHC-F

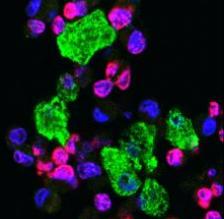


Cell block

IHC Chromogenic

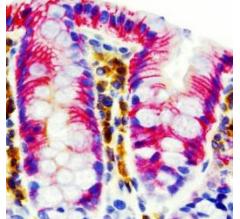


Fluorescence



Immunohistochemistry (IHC)

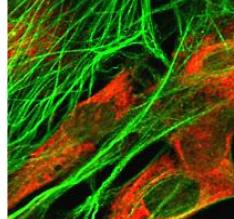
IHC Chromogenic



Tissue

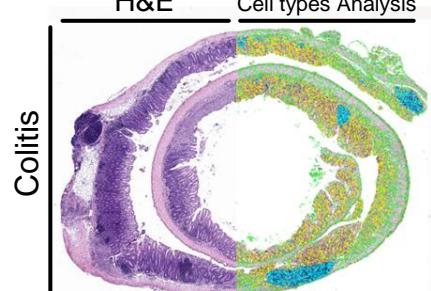
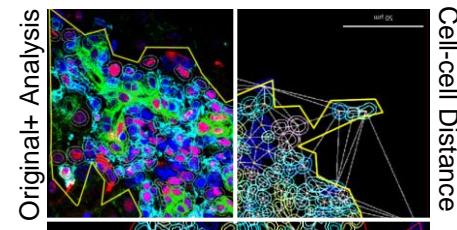


Cell culture



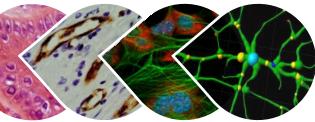
4. Image Analysis (IA)

- Algorithm based
- Machine Learning Based:
 - #cells // Signal Intensity // Cell-cell Distance

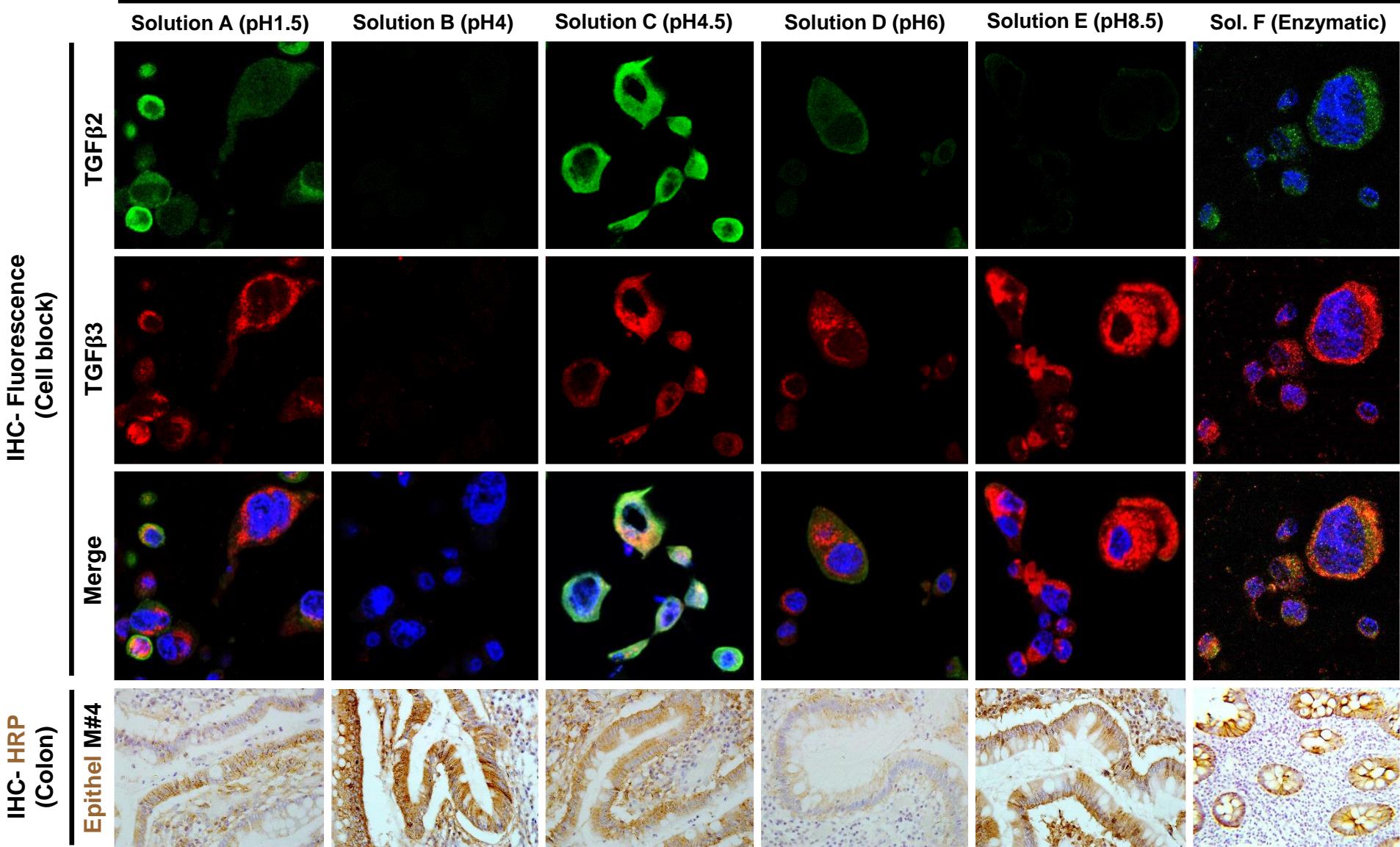


5. Pathological Report

- Histology & IA report.
- Pathological evaluation & report.



Histospeck now offers: **Various IHC Antigen Retrieval methods.**



Histospeck now offers: **Cell block & Cell culture IHC services**

Cell Block		Cell culture	
HRP	Fibroblasts M#1	Cell-cell adhesion	Hu cell Marker#2
Fluorescence	Fibroblasts M#1 + Proliferation M#1	Fibroblasts M#1+ TGFβ	Fibroblasts M#1+ Hu cell Marker#2
	Fibroblasts M#6+ ECM Marker#2	Endothel Marker #3+ Proliferation M#1	DS DNA Damage
Fluorescence			
3D Reconstruction			

Histospeck now offers: **Cell block IHC services** (2nd brochure)

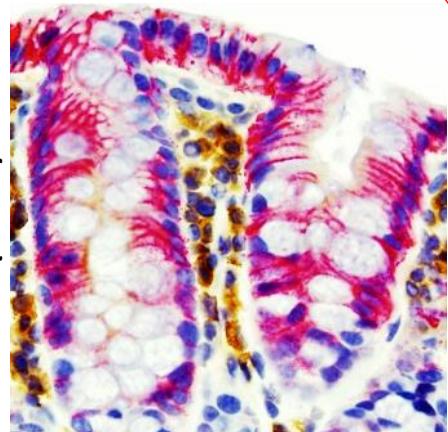
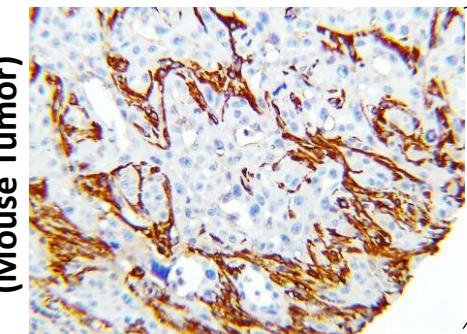
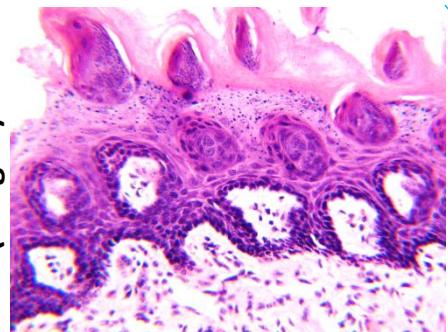
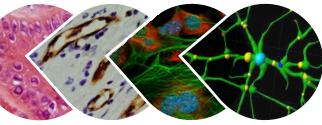
	Enzyme (HRP)	FOXO3A (Tumor+ Fibroblasts)	Viral protein	Cancer cells M#1
Cell Block				
Proliferation M#2+				
Hu cell Marker#2				
Luciferase				

Histospeck now offers:

Custom made Tissue Microarray (TMA)

block preparation and IHC Services

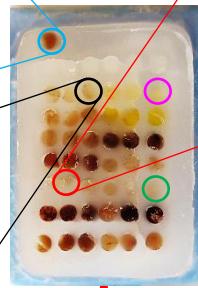
Histospeck
Histology, Cytology & Image Analysis



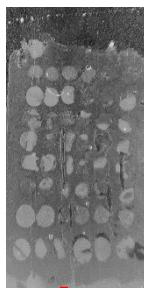
Multiple Tissues



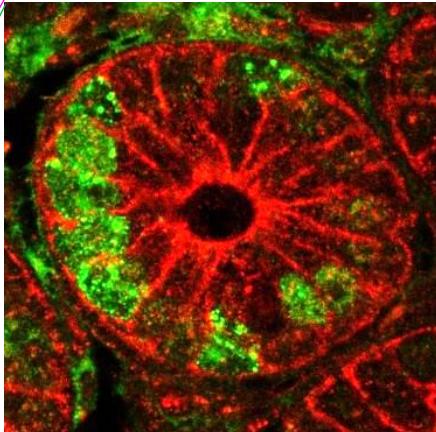
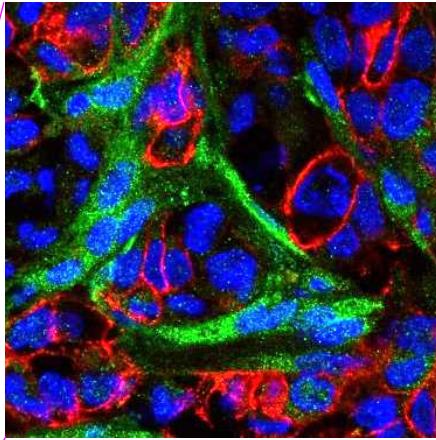
TMA Block



TMA Slide



H&E Slide



Masson's
Trichrome
(Colon)

Fibroblasts M#1+
Fibroblasts M#3
(Xenograft Tumor)

Proliferation M#2+
Cell-cell adhesion
(Small Intestine)

Routine
stainings

IHC Fluorescence

H&E

IHC HRP

IHC HRP+AP

Morphology
(Tongue)

Fibroblasts M#1
(Mouse Tumor)

Astrocytes M#1+ Astrocytes M#2
(Colon)
(enteric glia cells+Epithel)

Routine
stainings

IHC Fluorescence

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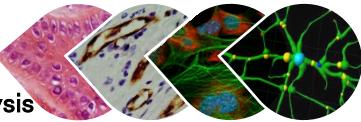


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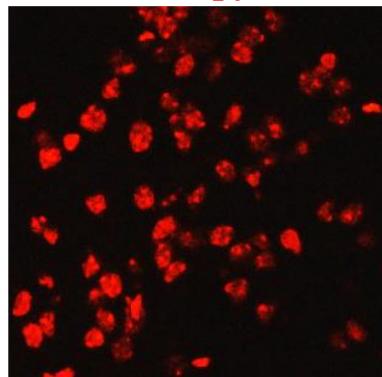
Histospeck now offers:

Detection of: injected drugs // antibodies //

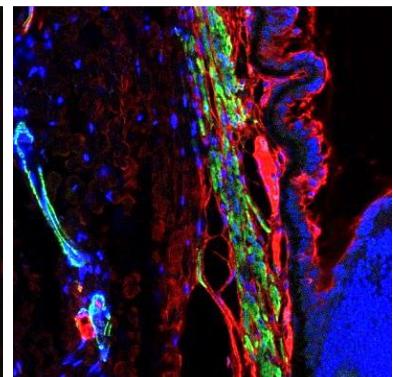
labeled cells in tissue IHC services



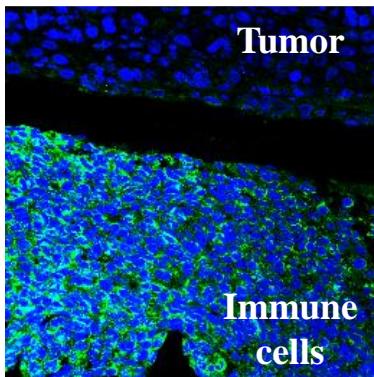
Fluorescence labeled
Chemotherapy (*In-vivo*)



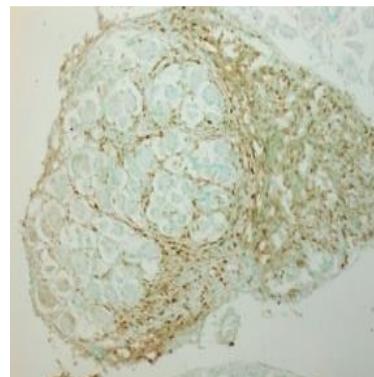
Injected antibody, IgG,
(*In-vivo*)



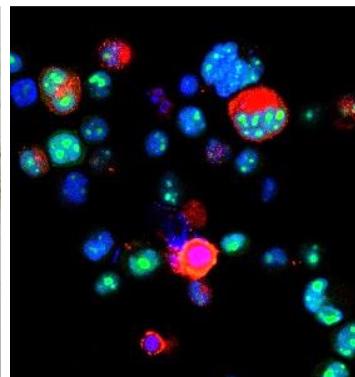
mCherry labeled
immune cells (*In-vivo*)



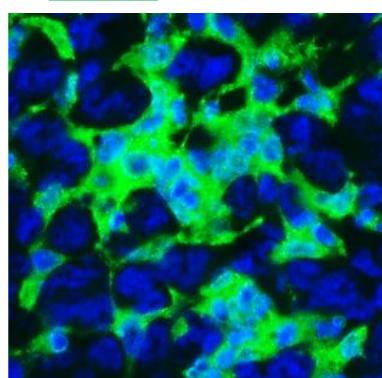
mCherry labeled tumor
cells (*In-vivo*)



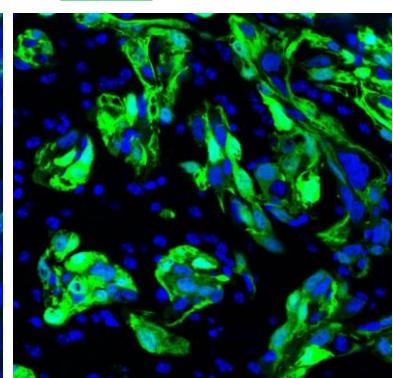
GFP cells & **mCherry**
cells (*In-vitro*)



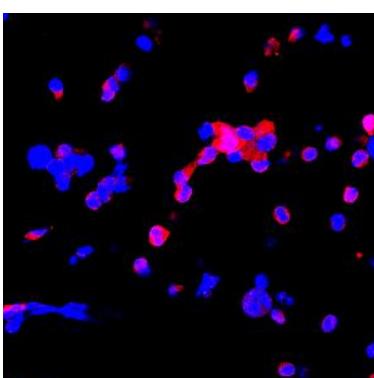
GFP expressing
Stromal cells (*In-vivo*)



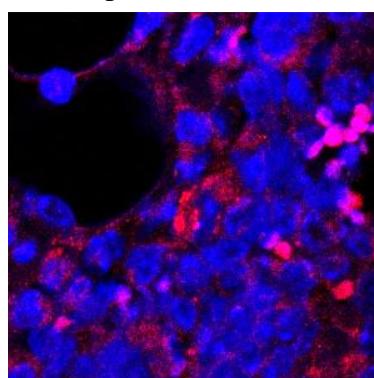
GFP expressing
Tumor cells (*In-vivo*)



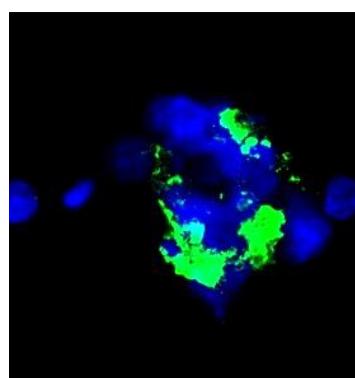
Luciferase expressing
cells (*In-vitro*, CB)



HA expressing
hematopoietic cells (*In-vivo*)



FLAG expressing cells
(*In-vitro*)



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Histospeck now offers:

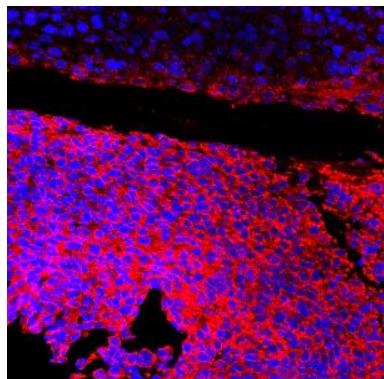
Detection of: injected drugs // antibodies //

labeled cells in tissue IHC services

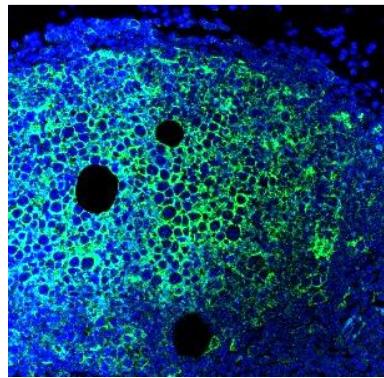


Hematopoietic cells

Marker #1

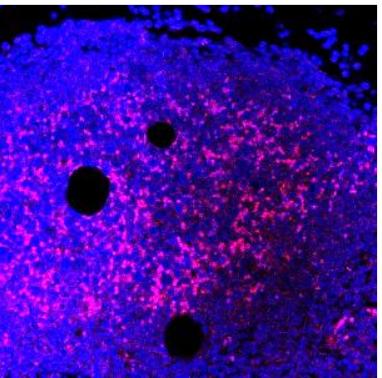


Hematopoietic cells
Marker #2



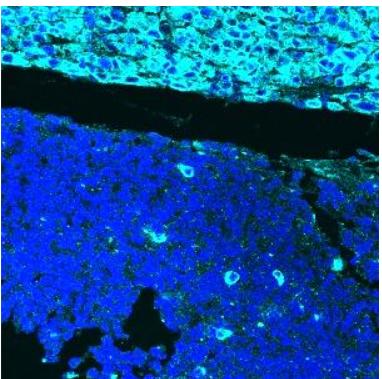
mCherry labeled hematopoietic cells

HA expressing hematopoietic cells

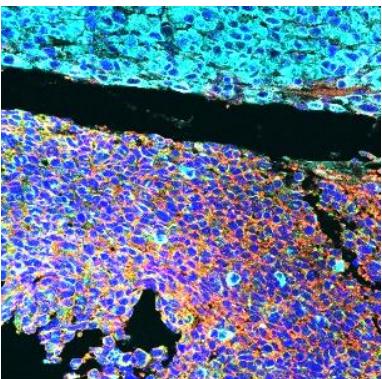


Breast cancer marker

Breast cancer marker

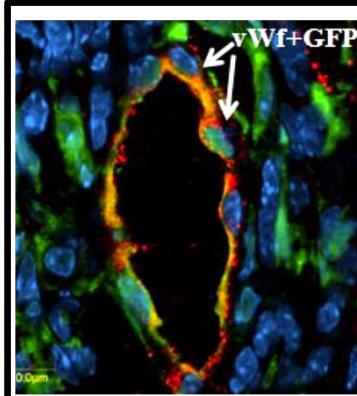


Merged+DAPI

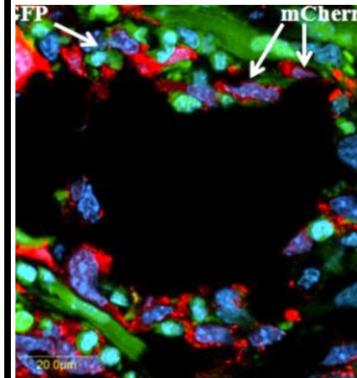


Merged+DAPI

GFP mouse model- (Chimeric BV)



mCherry tumor in GFP mouse



For details:

Dr. Itay Spektor

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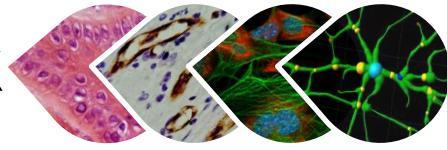
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Histology, Cytology,
Image Analysis &
Scientific
Consultation
Services

Histospeck now offers:

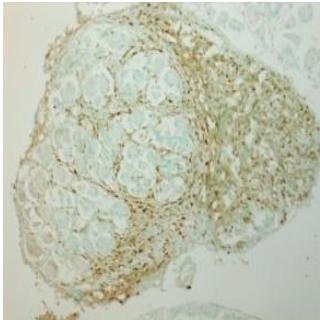
Histospeck



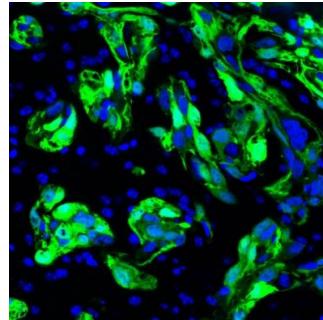
Detection of: Tumor/ Cancer cells *in-vivo* IHC services

Tumor labeled markers

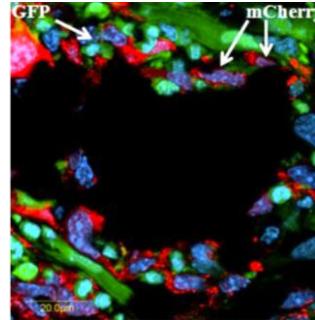
mCherry labeled tumor cells



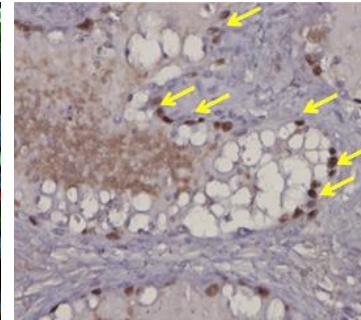
GFP labeled tumor cells



mCherry tumor in GFP mouse



Viral marker #1 labeled Transformed cancer cells

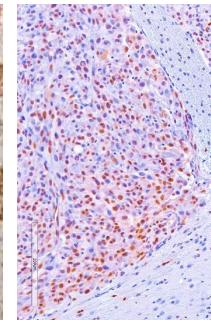
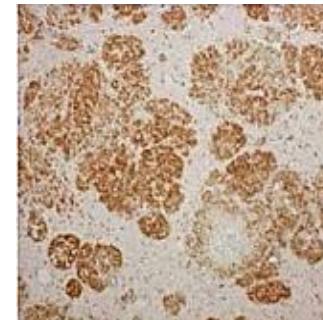


Detecting proliferating tumor cells

Proliferation Marker #2

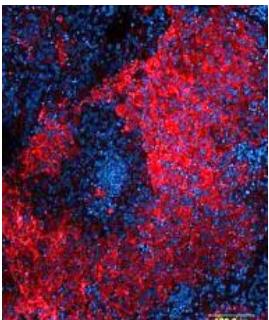
HCC

Glioblastoma

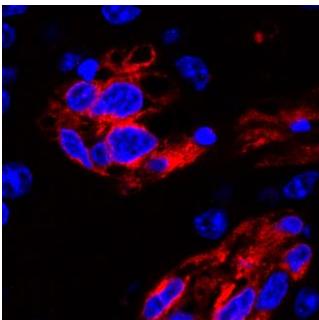


Tumor specific markers

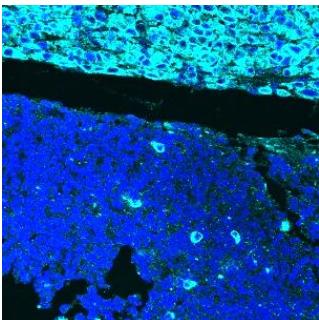
HCC Marker



Melanoma Marker

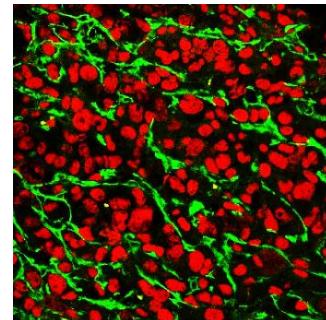


Breast cancer marker

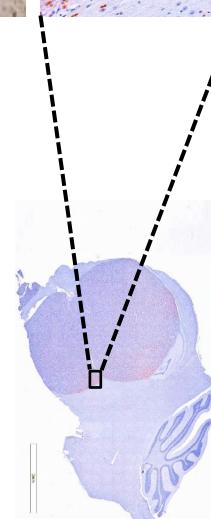
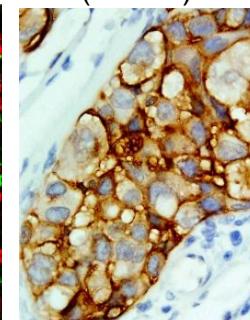


Human Tumor specific markers

Fibroblasts M#1+
Hu cell Marker#1

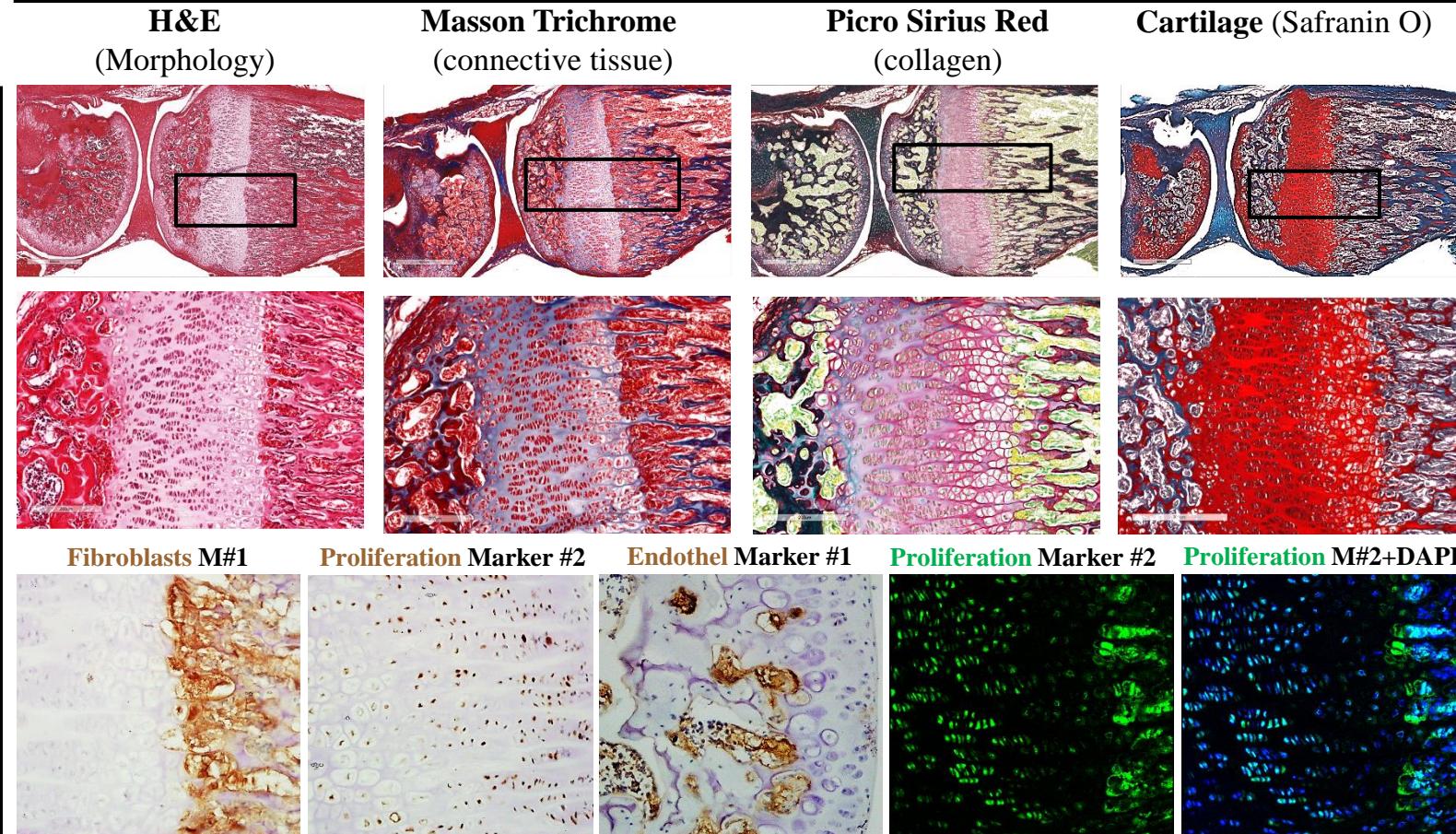


Hu cell Marker#2
(Tumor)



Histospeck now offers: **De-calcified Bone (+Cartilage) FFPE IHC services**

De-calcified Bone

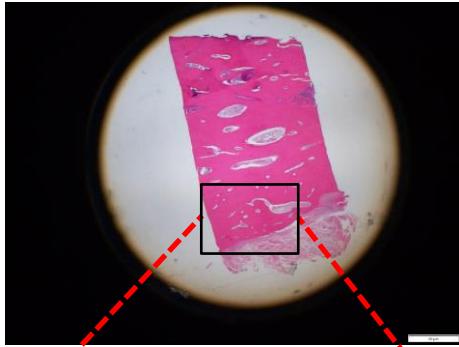


For details: Dr. Itay Spektor ☎ +972-50-4690708 ✉ Itay@histospeck.com www.histospeck.com

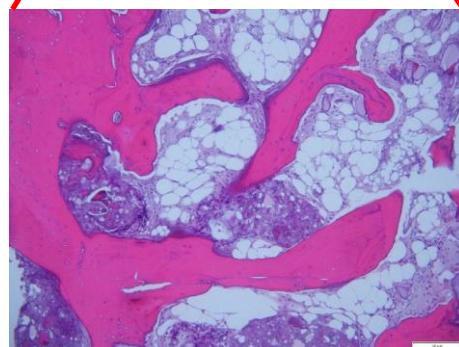
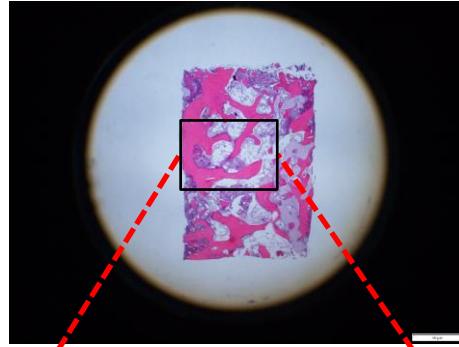
Histospeck now offers: **De-calcified Bone Implant FFPE Histology services**

De-Calcification Solutions (S)

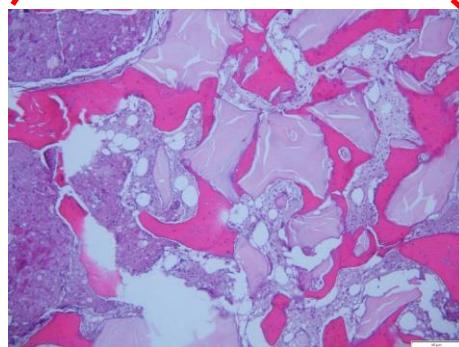
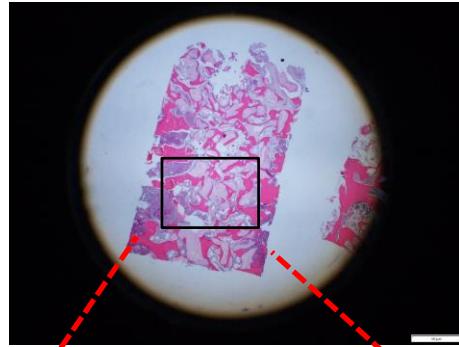
Solution #1



Solution #6



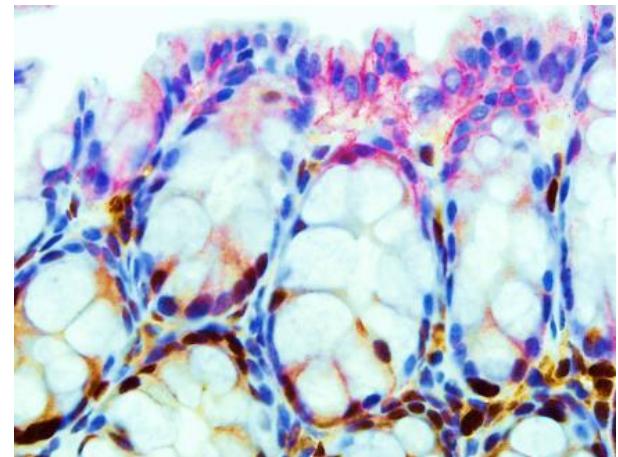
Solution #9



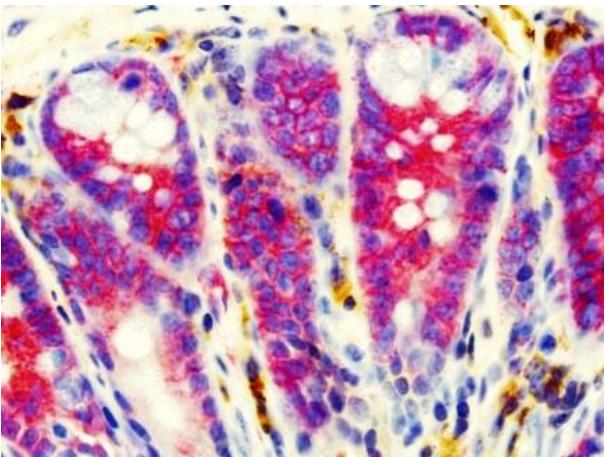
H&E

Histospeck now offers: **HRP/AP Multiplex IHC services**

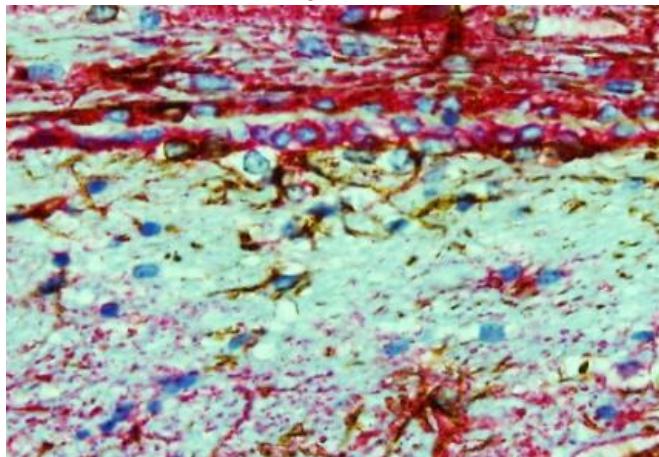
Proliferation M#2+ Cell-cell adhesion



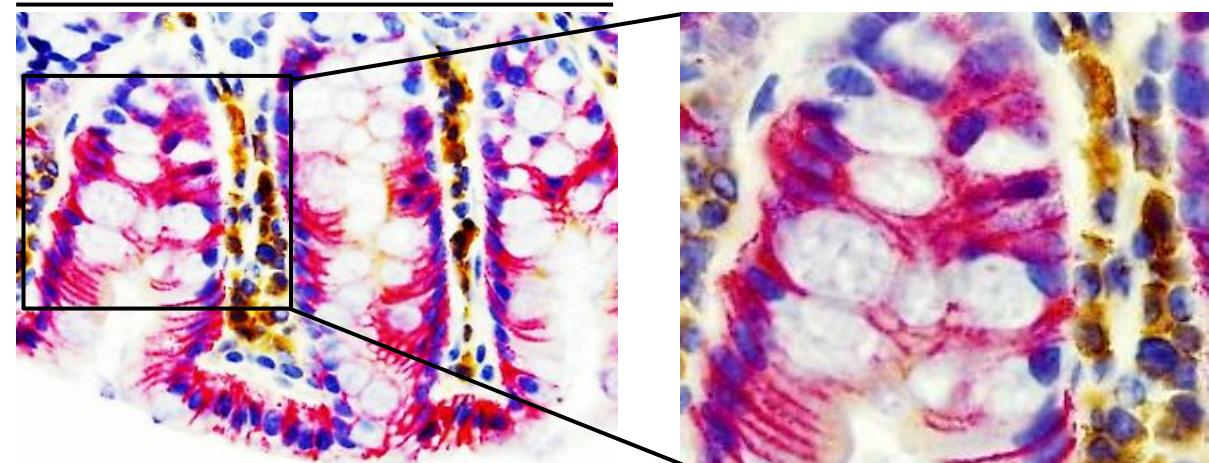
Enteric glia cells+ Epithel



**Astrocytes M#2 (perimicrovessel astrocyte)+
Astrocytes M#1**



**Astrocytes M#1 (Enteric glia cells)+
Astrocytes M#2 (colon)**

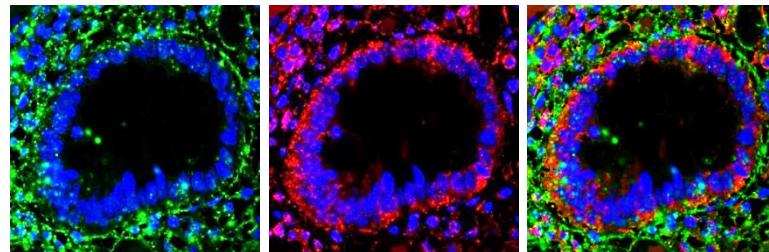


**HRP/AP Multiplex
Immunohistochemistry- Benefits:**

- Enable use of **multiple antibodies markers labeling in non-fluorescence immunostaining on same slide.**

Histospeck now offers: **OPAL Multiplex IHC services**

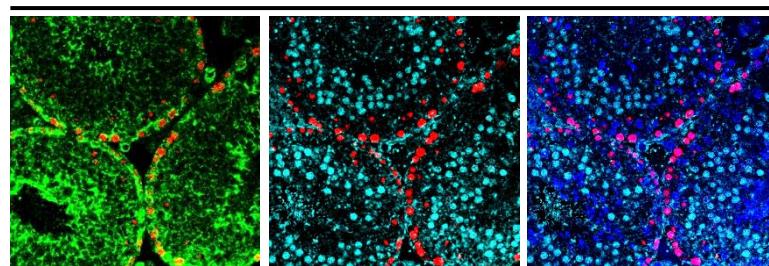
Colon- Astrocytes Marker #2+ ECM Marker#2



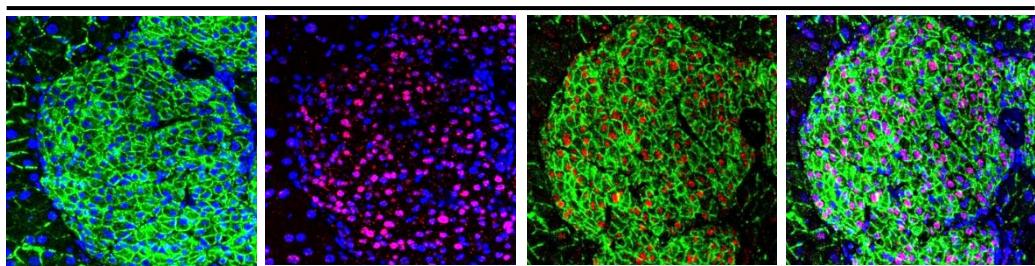
OPAL Multiplex Immunohistochemistry- Benefits:

- Enable use of **multiple antibodies raised in the same species** (i.e. anti Mouse +anti Mouse +anti Mouse).
- Up to **six markers** labeling **on same slide**.

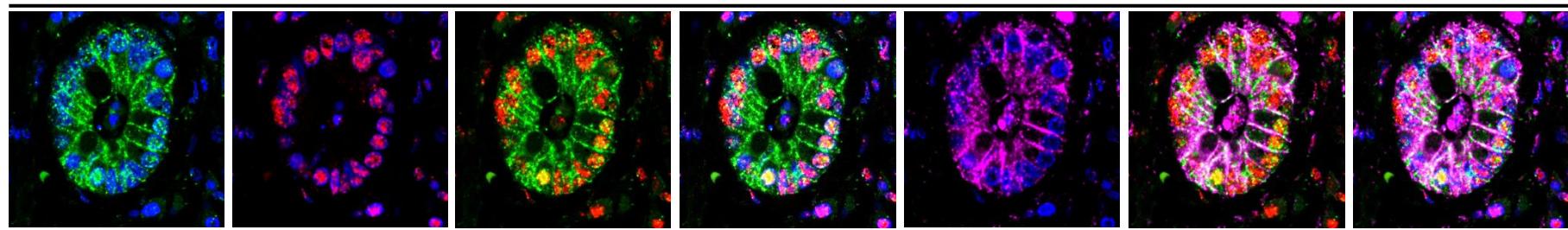
Testis- Cell-cell Adhesion+DS DNA Damage+ ECM



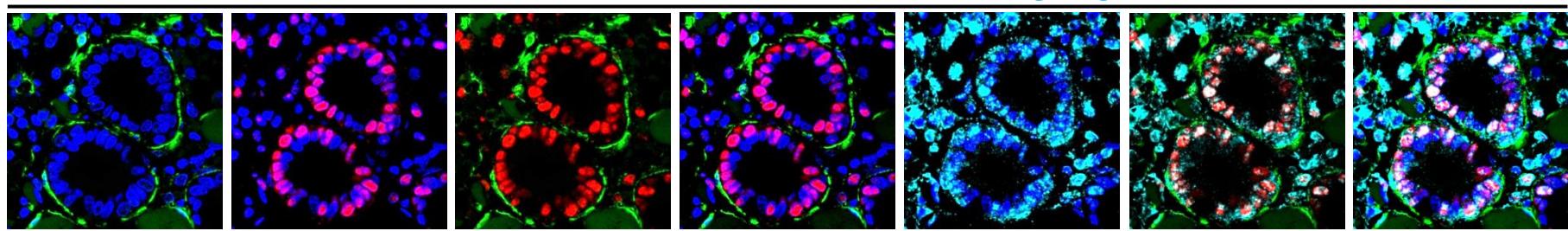
Pancreas- Cell-cell Adhesion+ DS DNA Damage



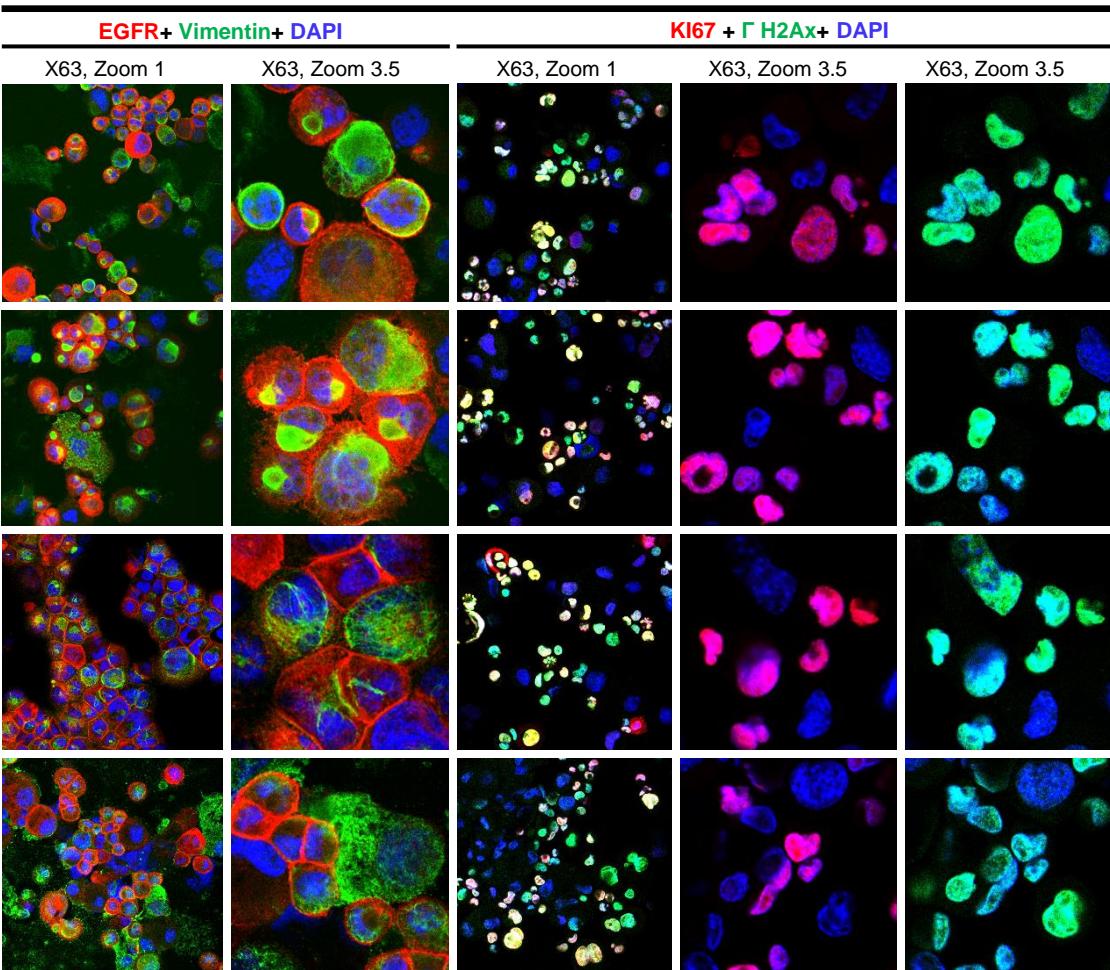
Colon- Cell-cell Adhesion+DS DNA breaks repair Marker#1+ Epithel marker #4



Colon- Fibroblasts M#1+ Proliferation M#2+ Cell signaling M#1



Histospeck now offers
Calibrated immunocytochemistry (ICC) Fixations and Permeabilization
methods on cells & Cryosections



Histospeck
Histology, Cytology & Image Analysis

Combination	Fixation 1	Fixation 2	Permeabilization	Signal		
				Membrane	Cytoplasm	Nuclei
				EGFR	Vimentin	KI67 p-γH2Ax
.1	Solution A1	Solution A3	Solution B2	+++	++	++ +
.2	Solution A1	Solution C	Solution F	+++	-	++ +
.3	Solution A1	Solution D	Solution B2	++	+	++ +
.4	Solution A2	Solution A3	Solution B2	++++	+	++ -
.5	Solution A2	Solution C	Solution B2	++++	++	+ -
.6	Solution A2	Solution D	Solution B2	++++	++	++ +
.7	Solution F	Solution A3	Solution F	++	+	++++ +++
.8	Solution F	Solution A3	Solution E1	++	+++	++++ +++
.9	Solution F	Solution A3	Solution E2	+++	+++	++++ +++
.10	Solution F	Solution A3	Solution B1	++	++	++++ +++
.11	Solution F	Solution A3	Solution B2	+++	++++	++++ +++
.12	Solution F	Solution A3	Solution B3	++	++	++++ +++
.13	Solution F	Solution C	Solution F	++++	++	++++ +++
.14	Solution F	Solution C	Solution E1	+++	++	++ +++
.15	Solution F	Solution C	Solution E2	+++	+	++ ++
.16	Solution F	Solution C	Solution B1	++++	++	+++ +++
.17	Solution F	Solution C	Solution B2	+++	+	++ +++
.18	Solution F	Solution C	Solution B3	++++	++	+++ +++
.19	Solution F	Solution D	Solution F	+	+++	++++ ++
.20	Solution F	Solution D	Solution E1	+	+++	++++ +++
.21	Solution F	Solution D	Solution E2	+	+++	++ +++
.22	Solution F	Solution D	Solution B1	+	+++	+++ +++
.23	Solution F	Solution D	Solution B2	+	+++	++ +++
.24	Solution F	Solution D	Solution B3	++	+++	++ +++

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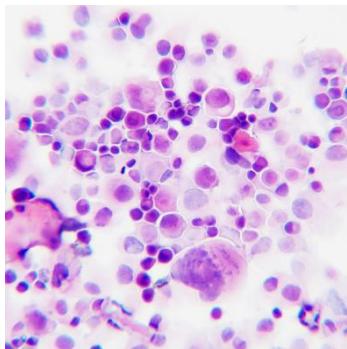
Histospeck now offers:

Calibrated Cytospin Panel: H&E and ICC (Immunocytochemistry) services

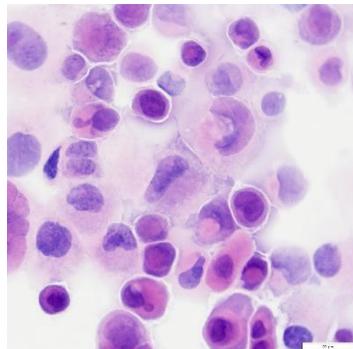


H&E (Cytospin attached Cells)

x40

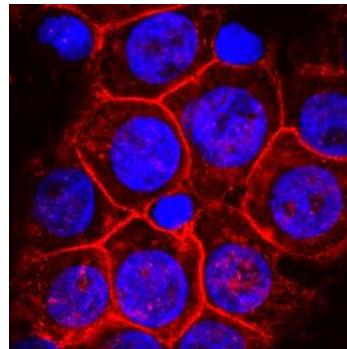


x100

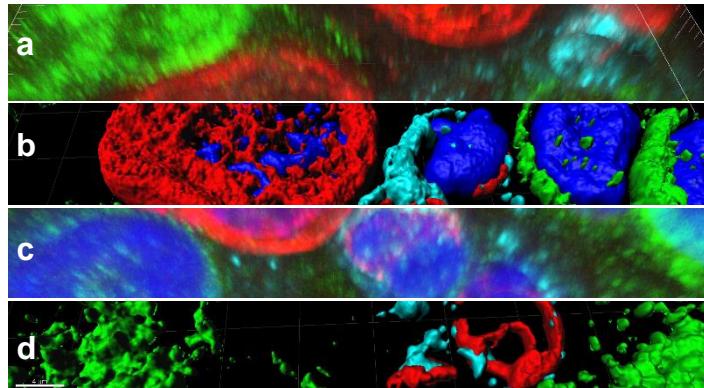


ICC- Cell Membrane Protein Markers (CMPPM)

i.e. Marker #1

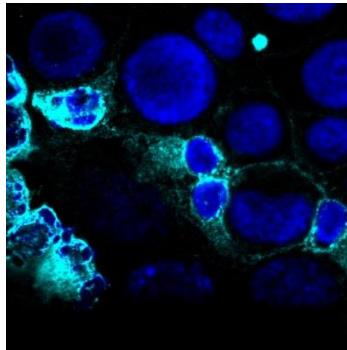


ICC- 3D Reconstruction (b,d) & Z Stack (a,c)

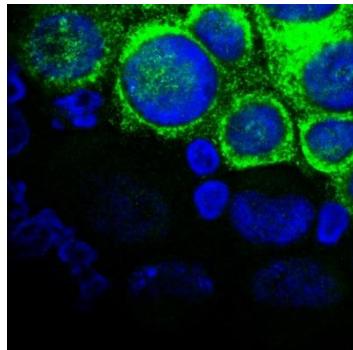


ICC-Cell Culture

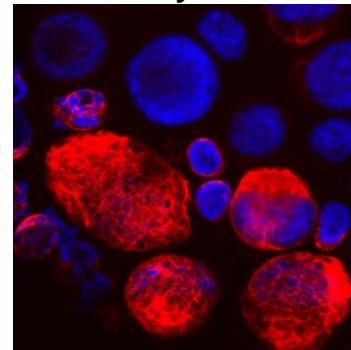
Immune Cells



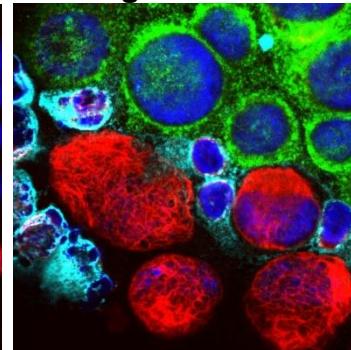
Cancer Cells



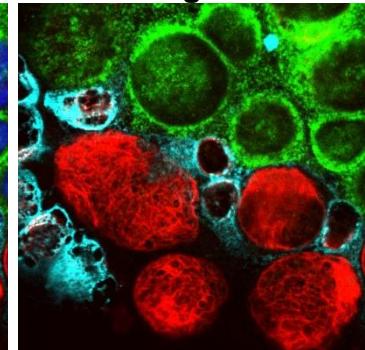
Mesenchyme Cells



Merged+ Nuclei

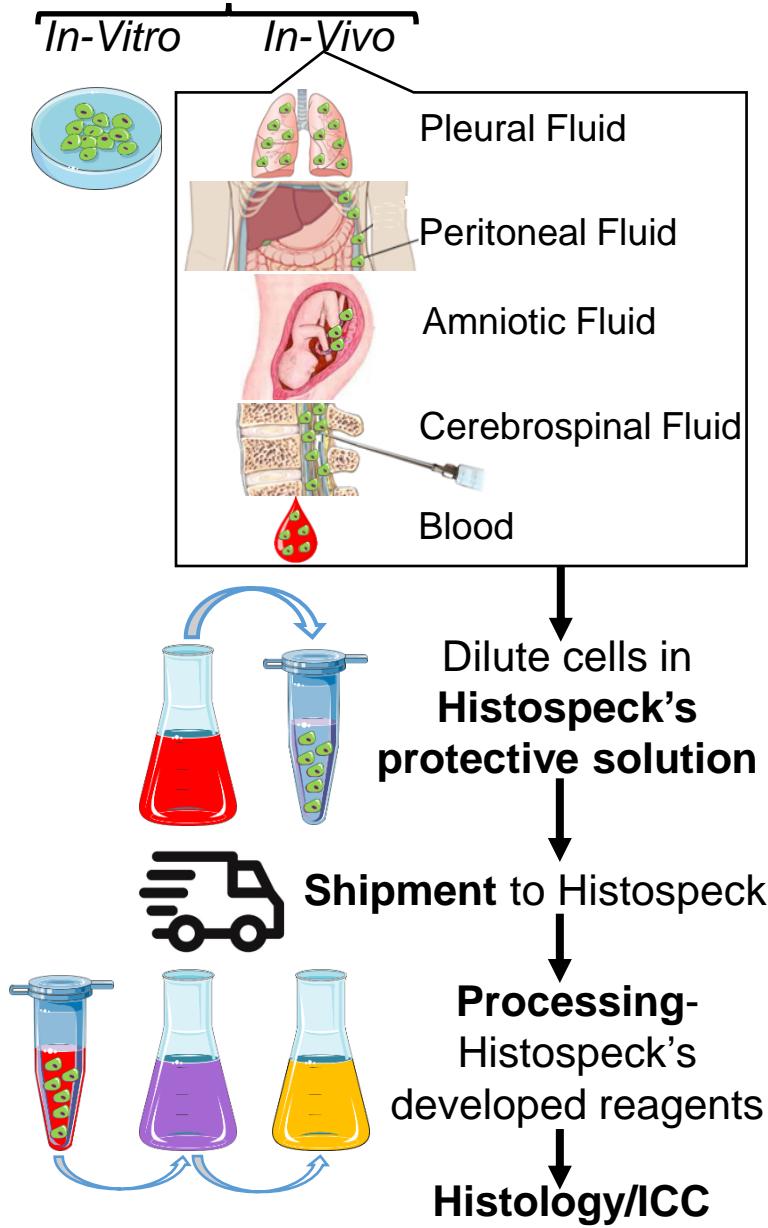


Merged



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Experiment

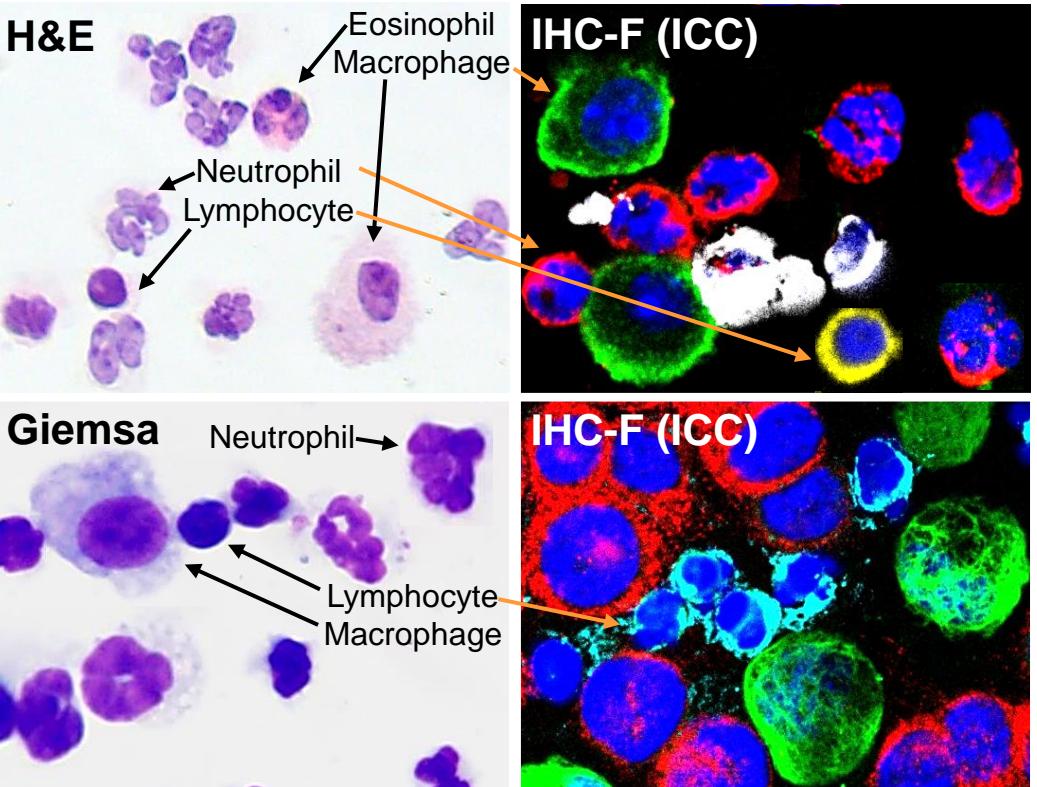


Histospeck's CytoTime method Advantages:

- Enable **Long storage time of cells** before attaching to slide.
- OPTIMAL Histology/ ICC¹ protein signal following cell attachment to slide.
- Optimized Fixation & Permeabilization methods for "M,CP,N,CS"² proteins.

¹ICC- Immunocytochemistry

²Membrane, Cytoplasm, Nuclei, Cytoskeleton (M,CP,N,CS) proteins.



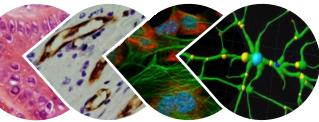
+ Immune structure; Lymphocytes
Neutrophils+ Macrophages
Cancer; Fibroblasts;
Lymphocytes

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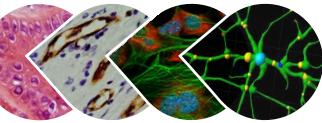
Histospeck now offers:

Calibrated Membrane Markers for ICC (Immunocytochemistry)
and IHC-P (Immunohistochemistry Paraffin) services

22

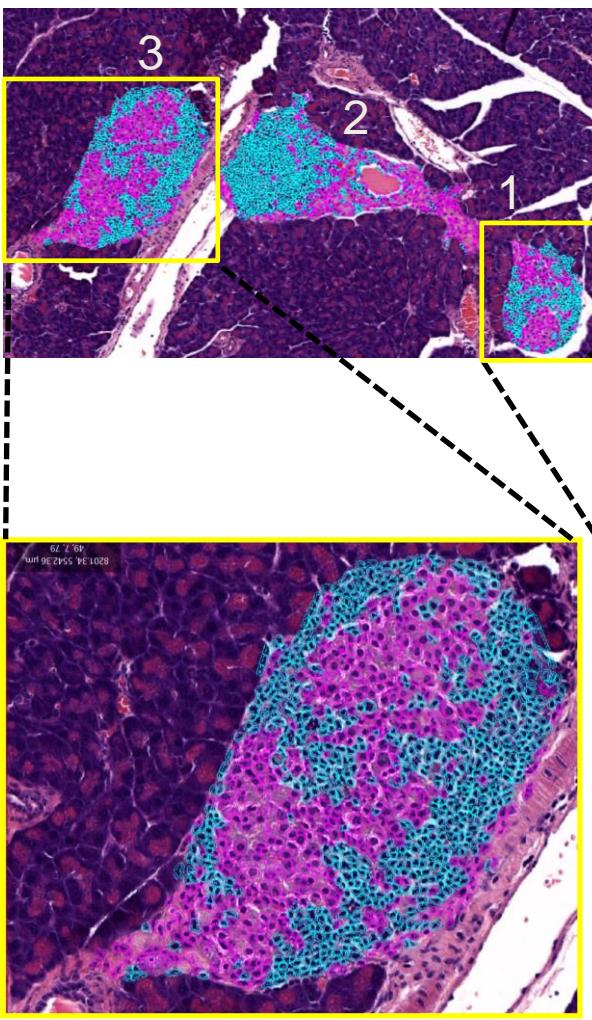
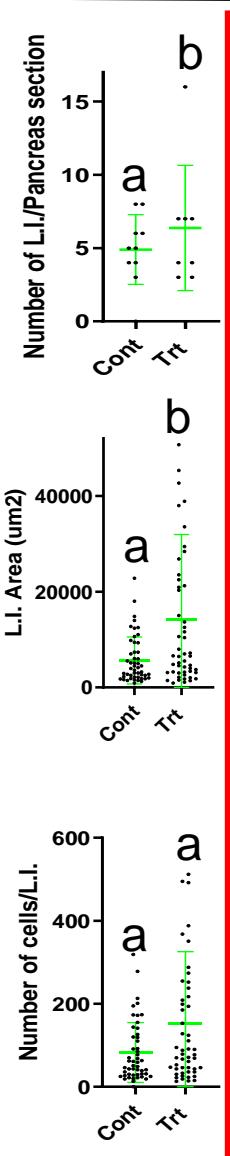
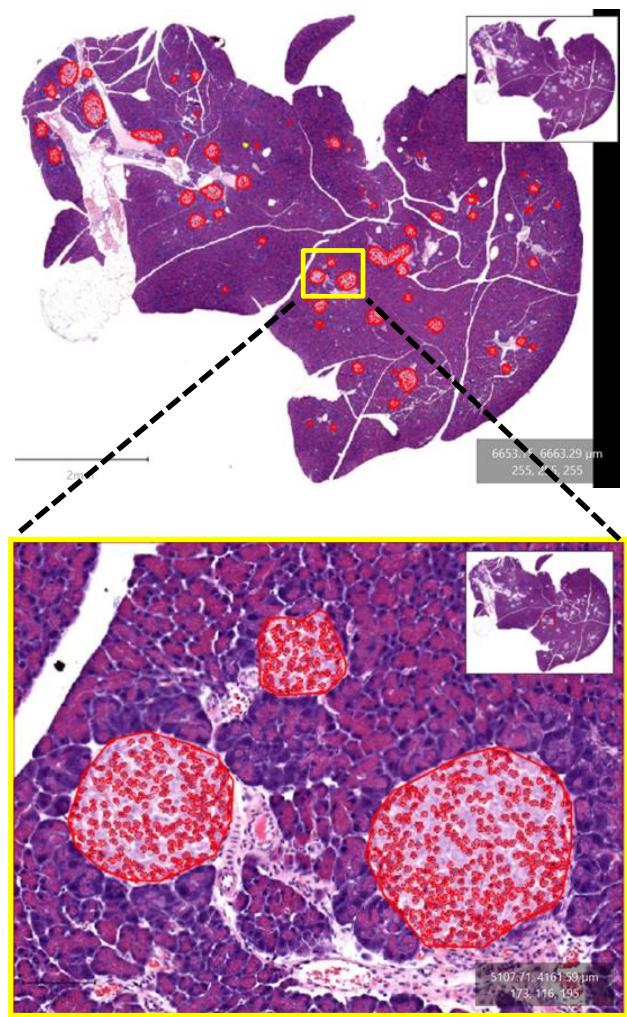
Cell Membrane Protein Markers (CMPM)

	Marker #1	Marker #2	Marker #3	Marker #4+5	Marker #6
ICC Cell Culture					 Histology, Cytology, Image Analysis & Scientific Consultation Services
IHC-Paraffin Cell Block					 For details: Dr. Itay Spektor +972-50-4690708 Itay@histospeck.com www.histospeck.com
IHC-P (tumor)					

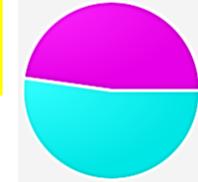
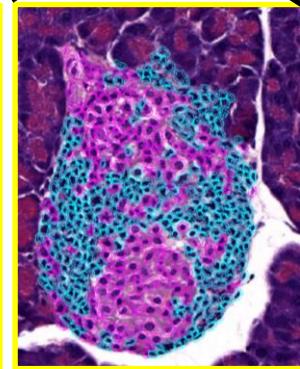


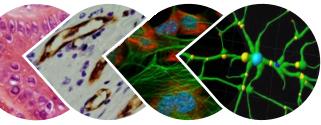
Histospeck now offers: Machine Learning based H&E image Analysis services

(example: Pancreas+
Islets of Langerhans)



L.I. #	1	2	3
Num Cells/ROI	541	1308	1438
Num Immune cells/ROI	320	764	955
Num L.I. cells/ROI	221	544	483
Area μm^2	39957	95655	101191
Perimeter μm	811	1288	1886





Histospeck now offers: Machine Learning based H&E image Analysis services

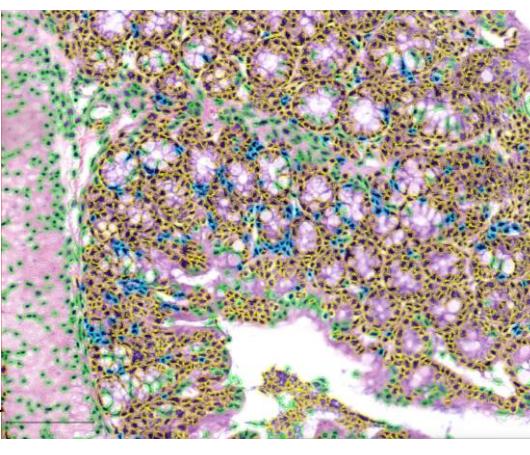
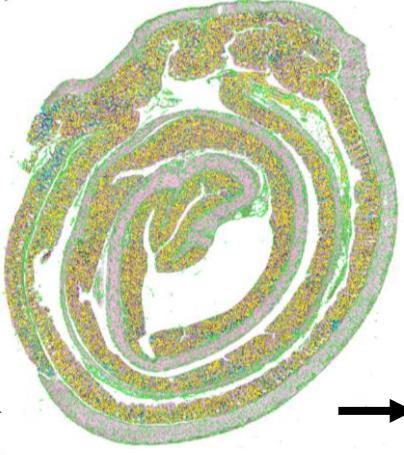
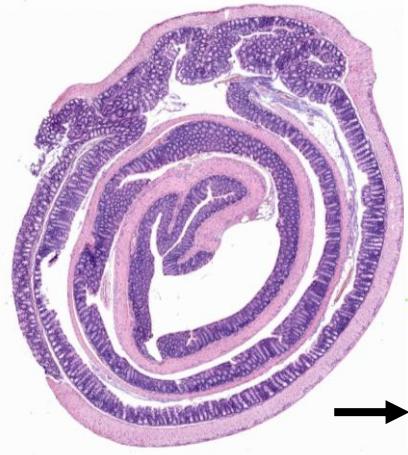
(example: Colitis model)

H&E

Machine learning IA

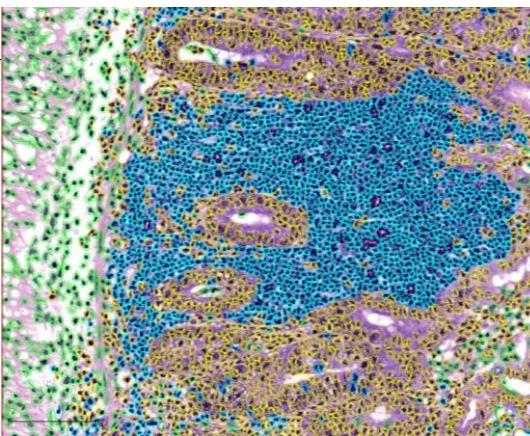
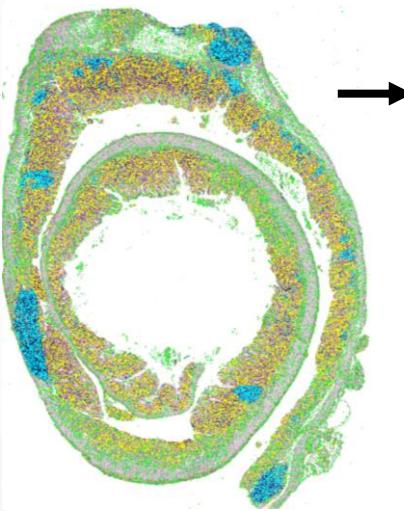
Machine learning (zoom 7.11x)

Control

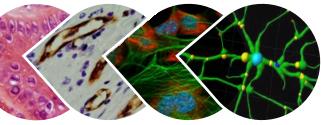


	Num cells/ROI	
Parameter	Control	Inflamed
Total Cells	96205	186993
Immune cells	6472	28679
Epithelia cells	56872	94252
Muscle & Stroma cells	32861	64062
Area μm^2	20940389	35995048
Perimeter μm	18328	24302

Inflamed (Colitis)



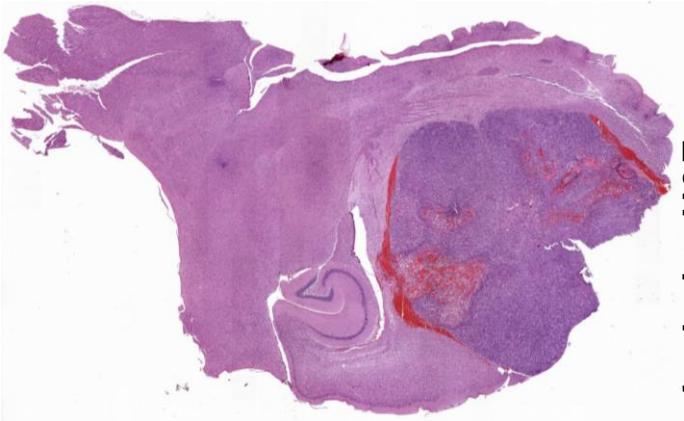
	% cells/total cells	
Parameter	Control	Inflamed
% Immune cells	67.27%	15.33%
% Epithelia cells	59.11%	50.40%
% Muscle & Stroma cells	34.15%	34.25%



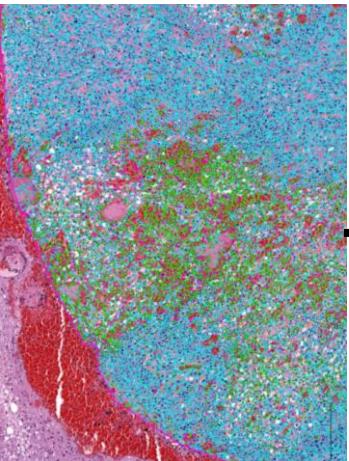
Histospeck now offers: Machine Learning based H&E image Analysis services

(example: Tumor)

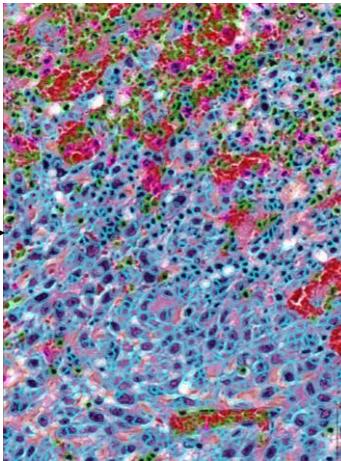
Tumor H&E scan



Zoom 2.26x

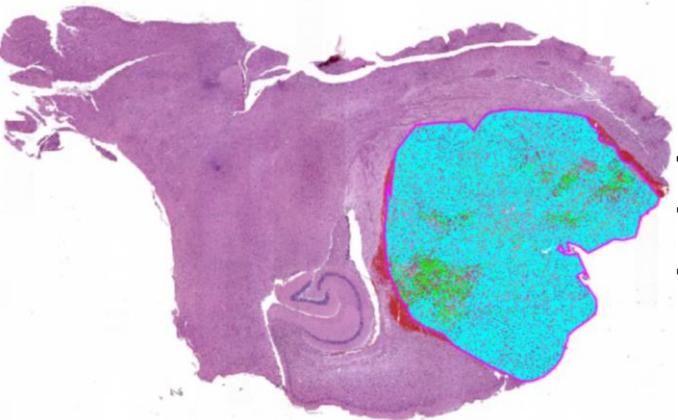


Zoom 11.11x

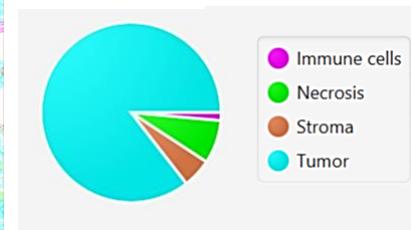
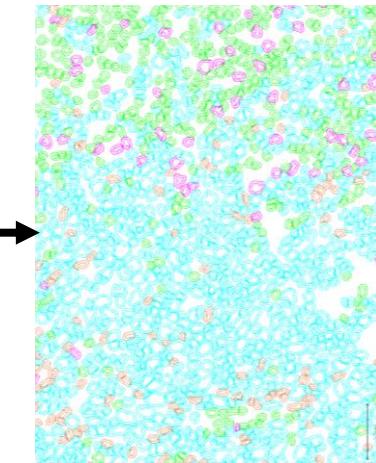
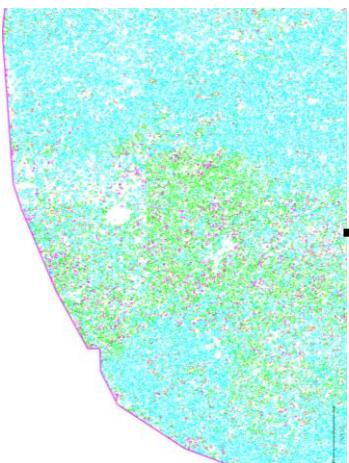


Glioblastoma (tumor)		
Cell Type	Num Cells/section	% Cells/section
Total cells	176149	
Tumor cells	153223	86.98%
Immune cells	1539	0.87%
Necrotic cells	12110	6.87%
Stroma cells	9277	5.26%
Area μm^2		
Perimeter μm	811	

Tumor H&E scan + Analysis



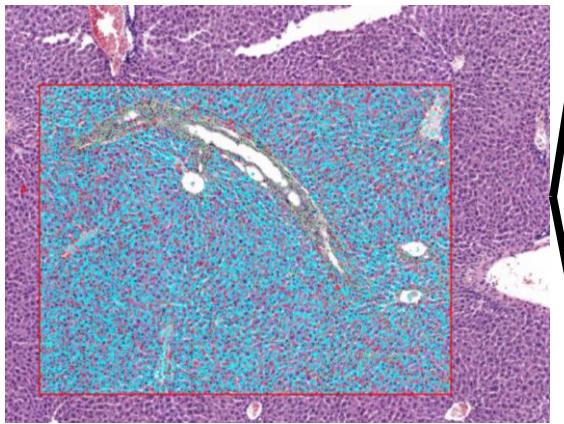
Analysis



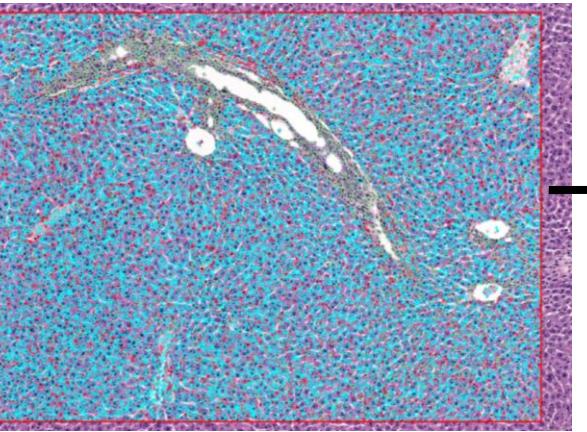
Histospeck now offers: Machine Learning based H&E image Analysis services

(example: Liver)

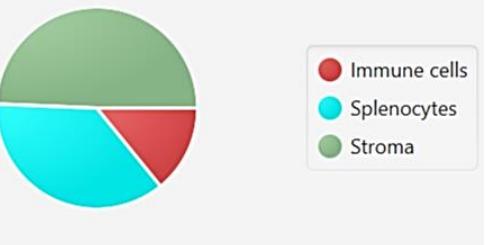
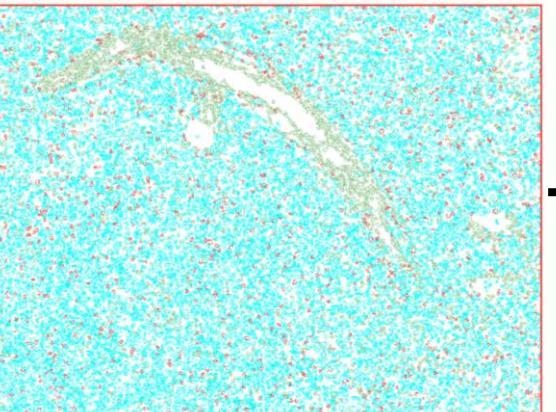
Liver H&E scan + Analysis



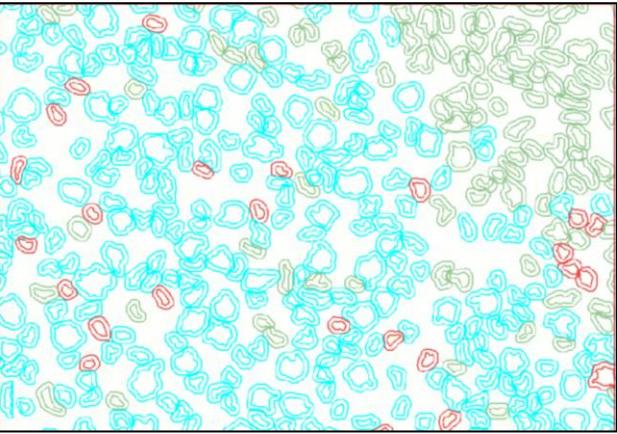
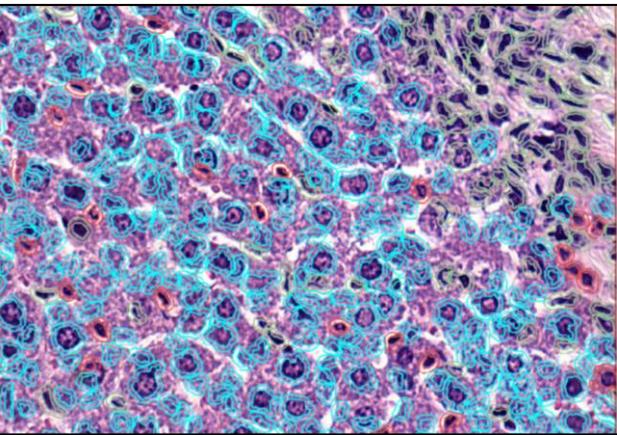
Liver H&E + Analysis



Analysis



Zoom in

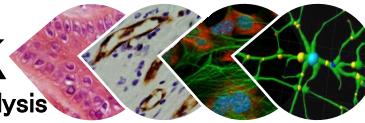


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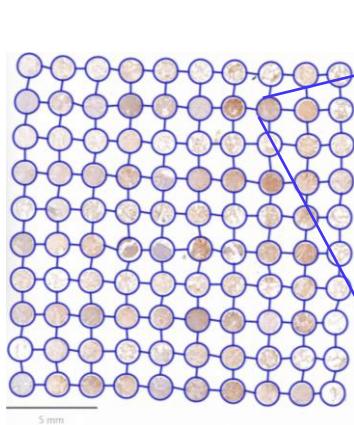
✉ Itay@histospeck.com

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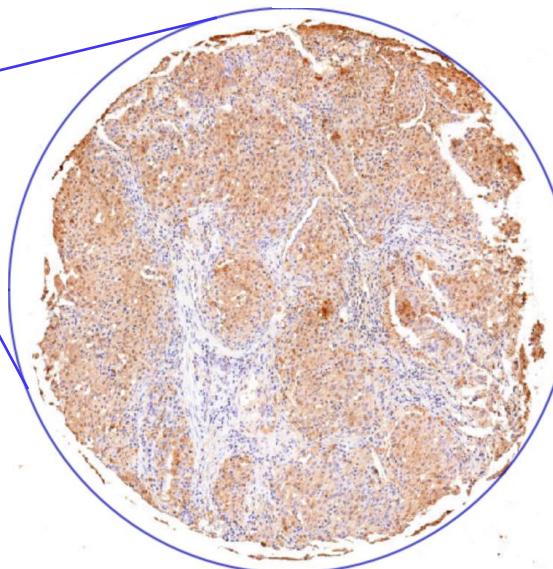


Histospeck now offers: Machine learning based TMA IHC-HRP Image Analysis services

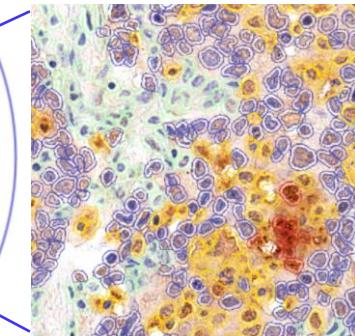
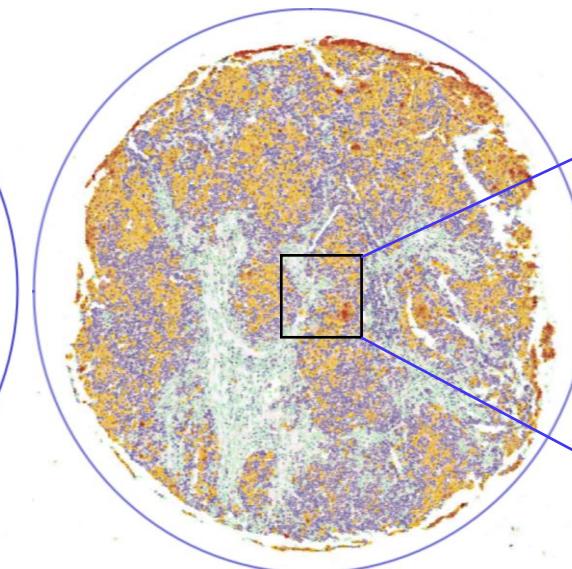
Tissue Microarray
(TMA)



Original Core:
HRP immunostaining



AI based Analysis



Quantitative Image Analysis- Summary

Tumor cell analysis

Num Tumor	10908
Num Tumor: 1+	3864
Num Tumor: 2+	451
Num Tumor: 3+	208
Num Tumor: Negative	6385
Tumor: Positive %	41.46

Stroma cell analysis

Num Stroma	2953
Num Stroma: 1+	13
Num Stroma: 2+	4
Num Stroma: Negative	2936
Stroma: Positive %	0.5757

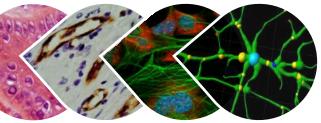
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+972-50-4690708

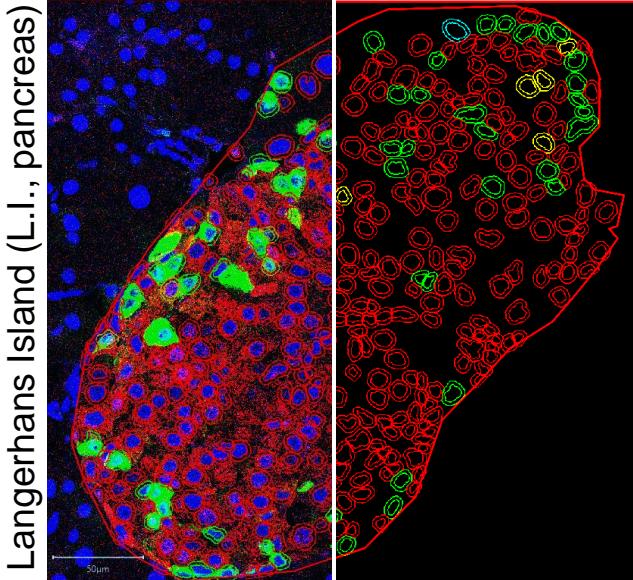
Itay@histospeck.com

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Histospeck now offers: Machine learning based Image Analysis services

Image+Analysis

Analysis

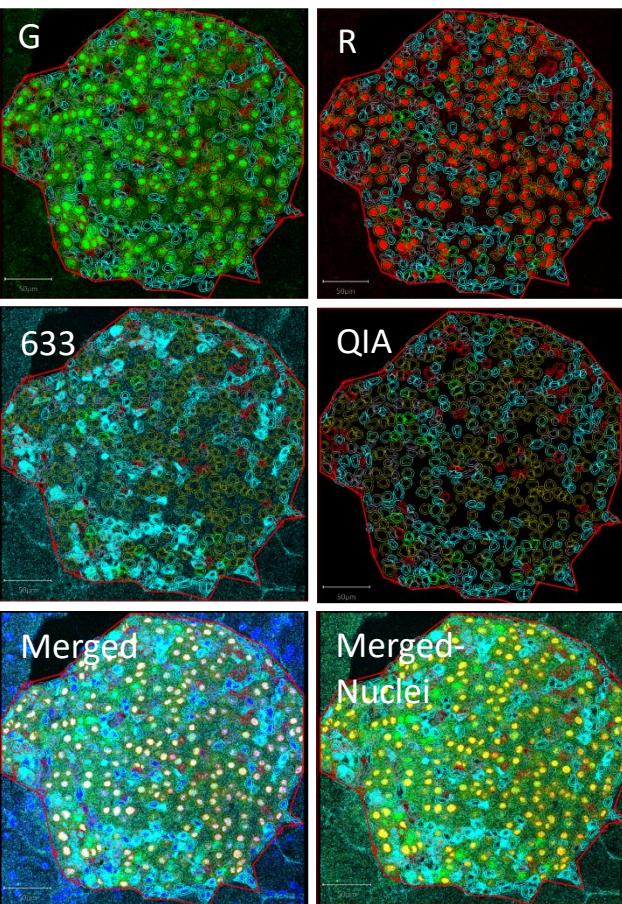
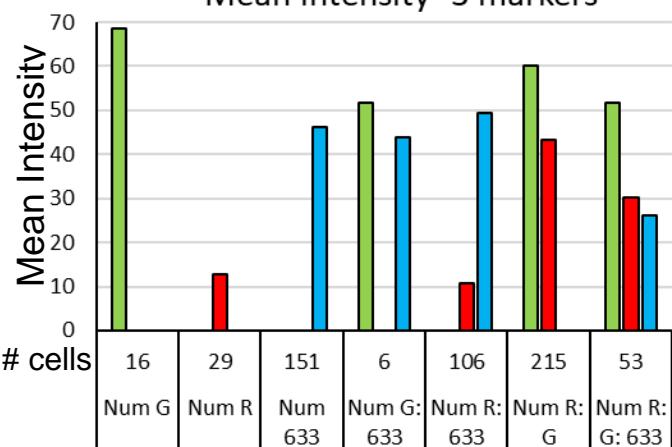


Intensity Analysis

	Num G	Num R	Num 633	Num G: 633	Num R: 633	Num R: G	Num R: G: 633
Number of cells/L.I.	16	29	151	6	106	215	53
Mean Intensity (G)	68.58			51.82		60.01	51.73
Mean Intensity (R)		12.76			10.73	43.29	30.19
Mean Intensity (633)			46.2	43.8	49.48		26.14

■ Mean Intensity (G)
■ Mean Intensity (R)
■ Mean Intensity (633)

Mean intensity- 3 markers



Histospeck now offers: Machine learning based Image Analysis services

Avg Distance between cell types

Distance in um to nearest	DAPI cell	G cell	R cell	633 cell	G: R cell	G: 633 cell	R: 633 cell	G: R: 633 cell
# cells	126	4	89	5	4	4	85	2
Total cells/field: 319								
DAPI cells	1.58	19.15	25.05	40.96	68.38	37.02	12.87	63.64
G cells	1.48	20.14	27.52	40.66	67.00	37.29	12.92	61.44
R cells	1.28	17.45	18.20	31.28	64.43	28.29	9.84	61.11
633 cells	1.30	17.32	19.00	23.74	39.86	38.74	5.61	69.25
G: R cells	2.28	18.33	19.67	30.84	63.63	45.03	9.41	63.76
G: 633 cells	0.12	30.55	16.29	42.48	75.43	67.59	16.83	62.46
R: 633 cells	1.22	18.12	24.48	39.13	63.47	39.67	11.25	53.14
G: R: 633 cells	0.16	28.24	35.77	57.99	62.53	23.12	16.82	146.56

Image+ Image Analysis

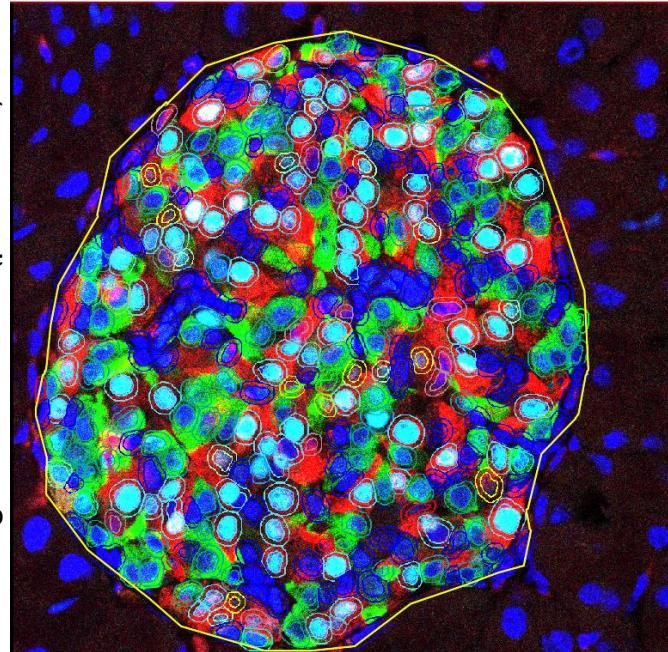
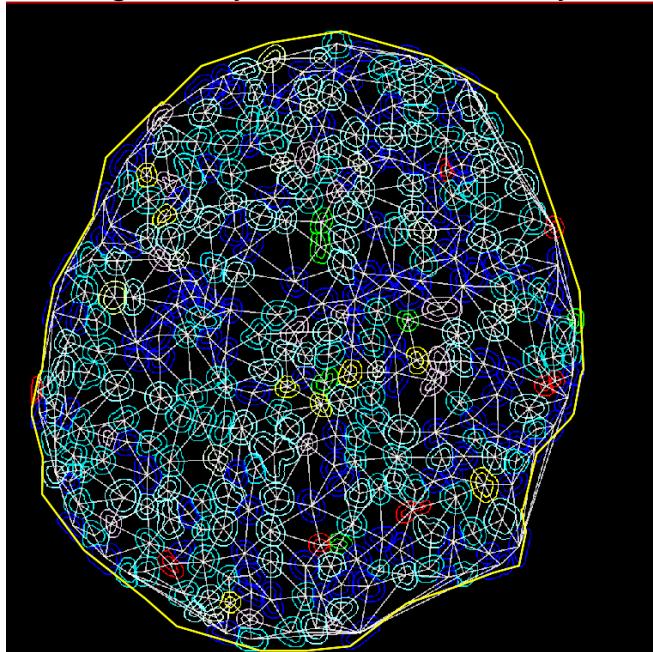


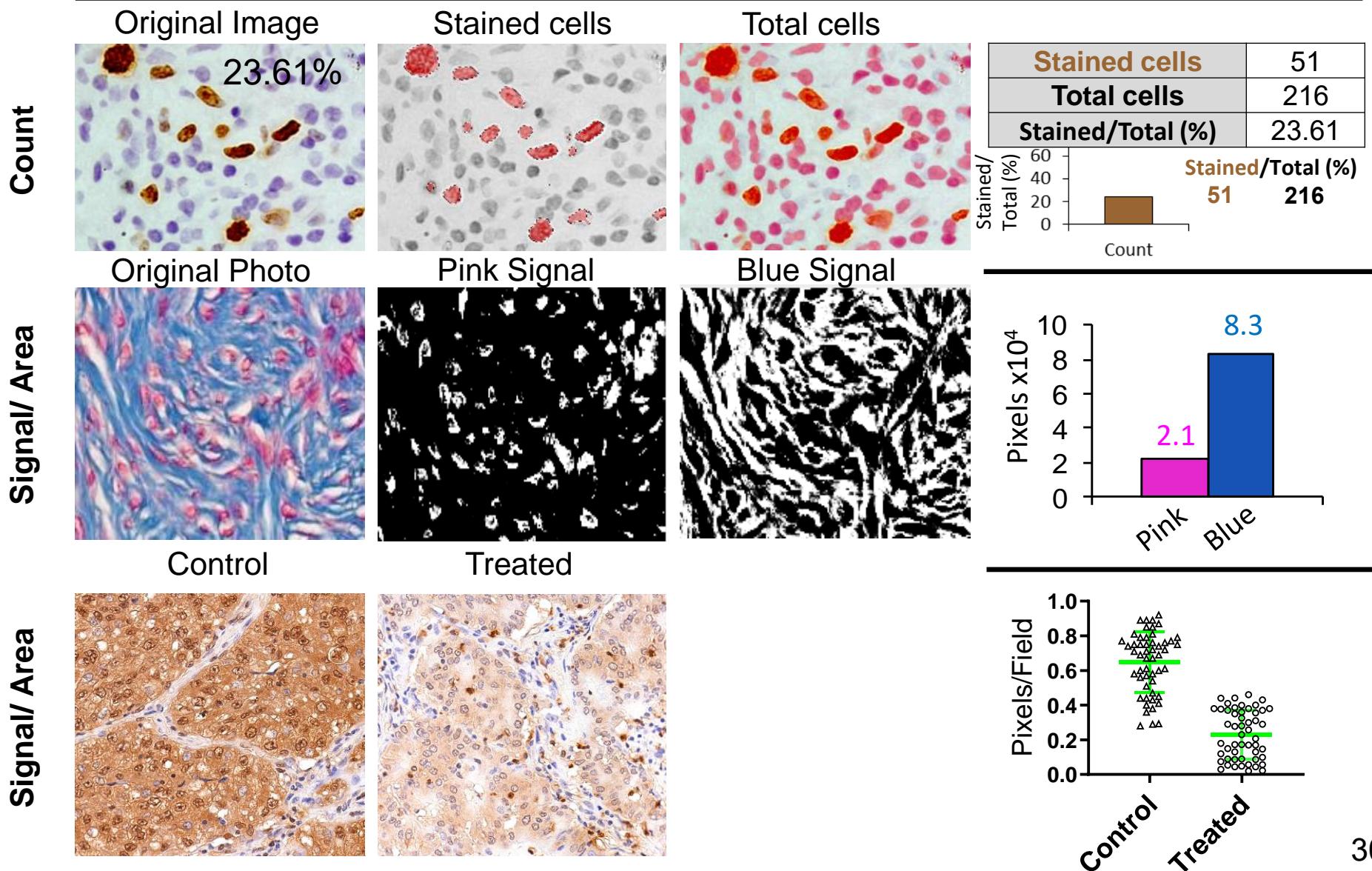
Image Analysis+ Distance Analysis



For details:
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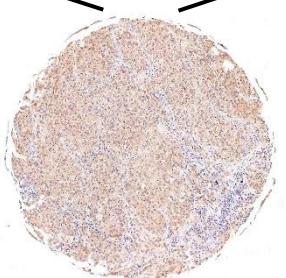
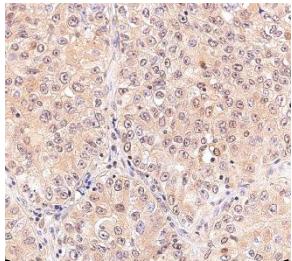
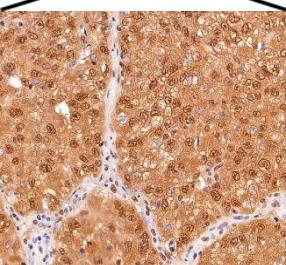
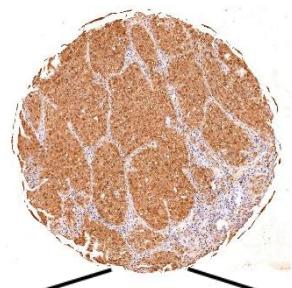
Histospeck now offers: **Algorithm based Image Analysis services**



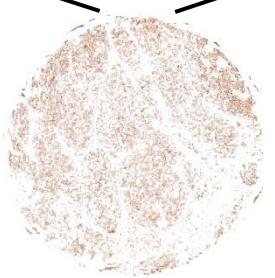
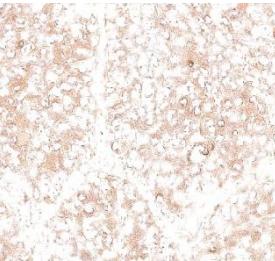
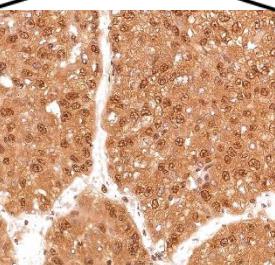
Histospeck now offers:

Algorithm based Non-Fluorescence TMA IHC Intensity Image Analysis services

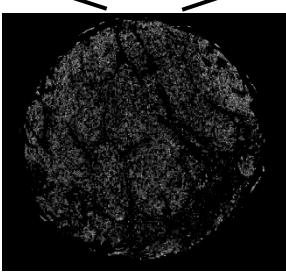
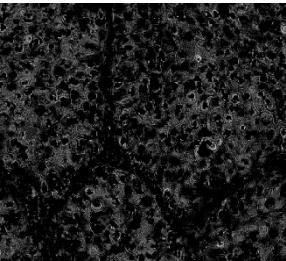
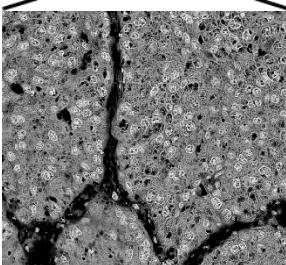
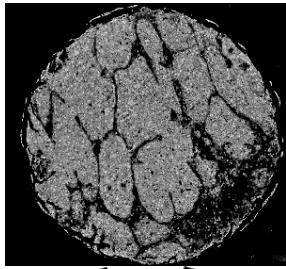
Signal+ Nuclei



Signal



Signal- Grayscale



Control

Treated

	Group		Ratio (Ctrl/Treated)
	Control	Treated	
Signal Area	76,449	11,524	6.63
Total Intensity	122,560,928	32,721,146	3.74
Mean Intensity	76.55	20.43	3.74

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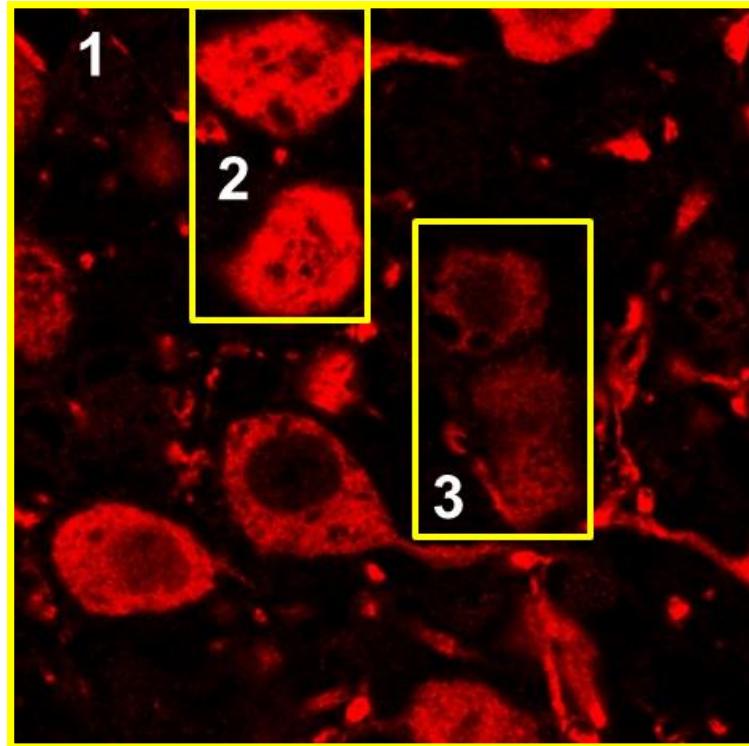
☎ +972-50-4690708

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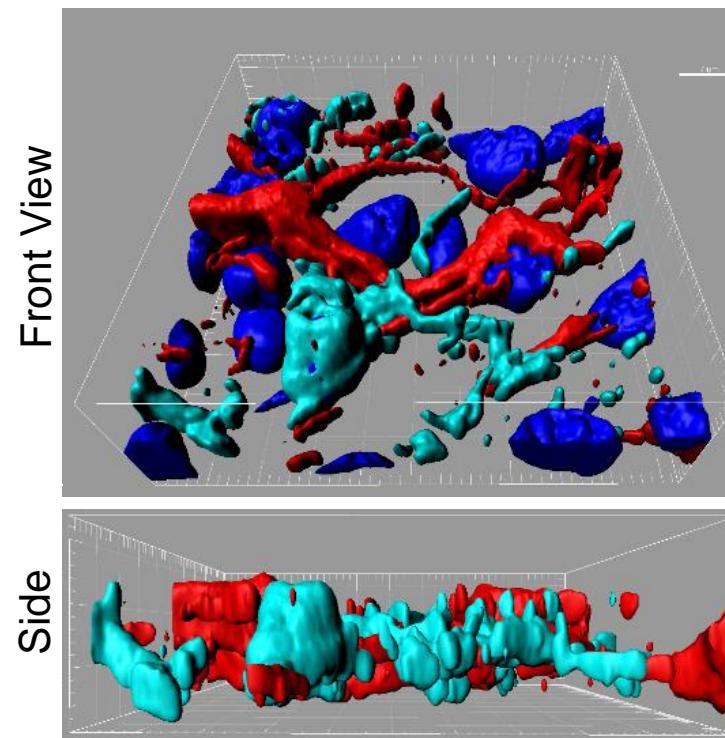
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Histospeck now offers: Algorithm based Image Analysis services

Signal Intensity



Volumetric (3D) Signal

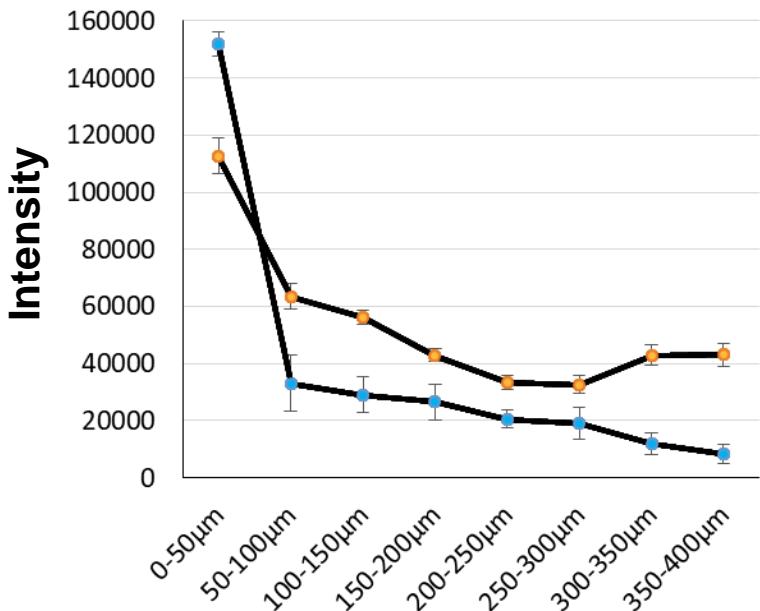
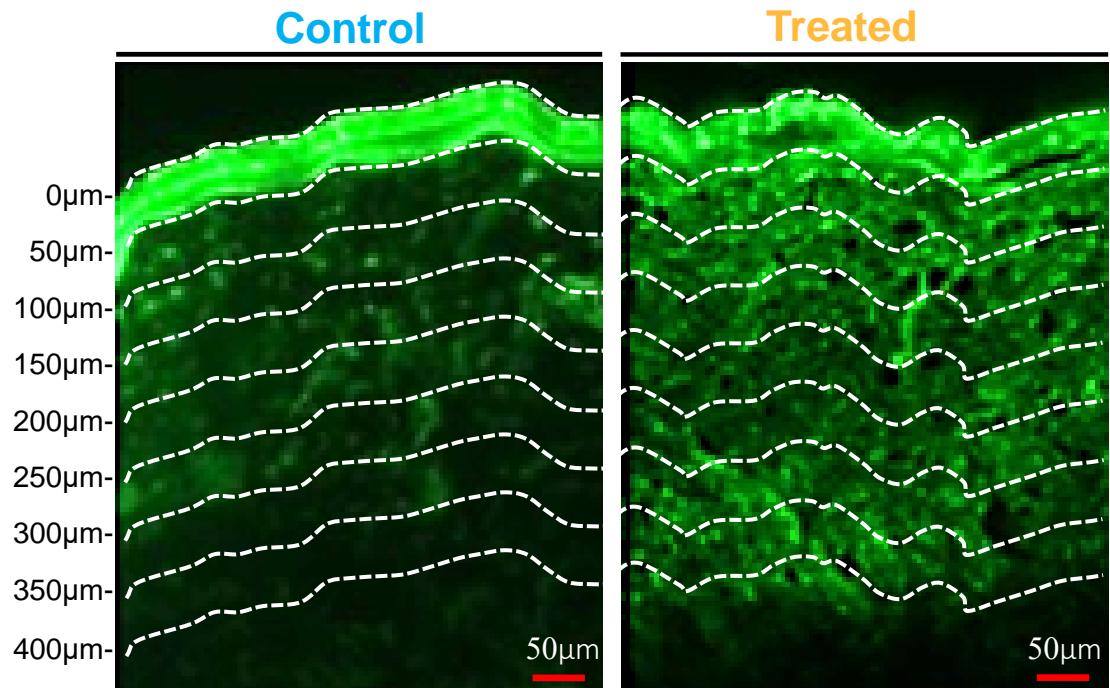


Area	Intensity
1	3,511,508
2	860,648
3	297,948

Protein	Volume (μm^3)
Astrocytes	2221.74
Microglia	1468.9

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Histospeck now offers: Algorithm based Drug Delivery Image Analysis services

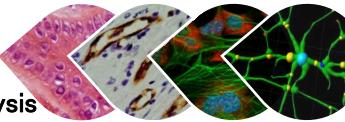


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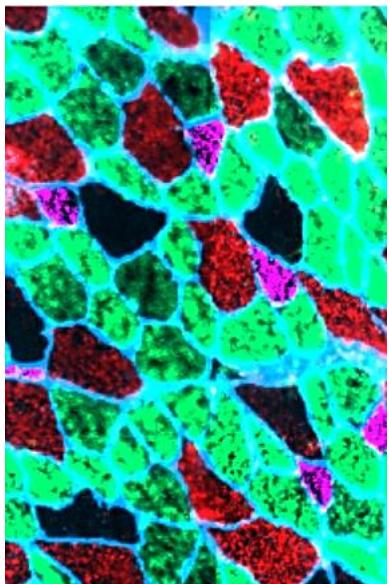
✉ Itay@histospeck.com

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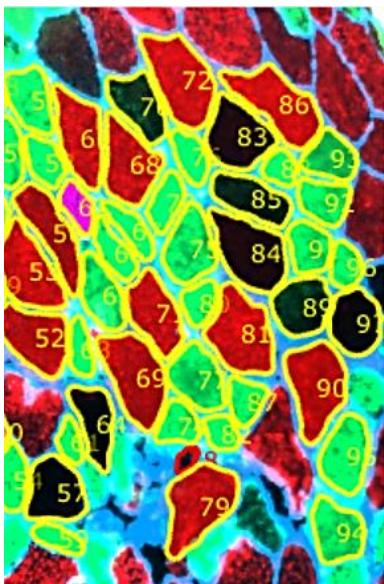


Histospeck now offers: Muscle fiber typing **Image Analysis services**

Image



Analysis



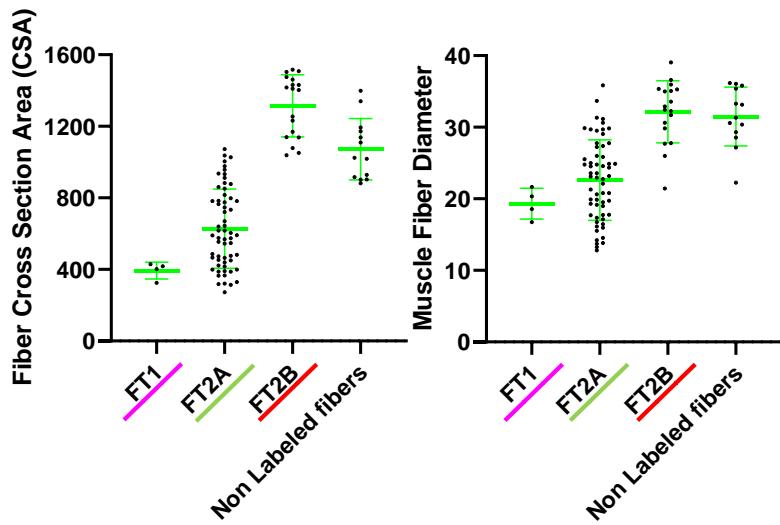
For details:

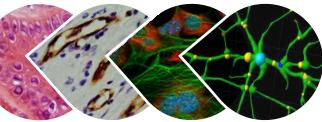
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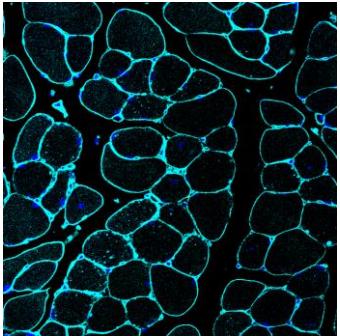
Skeletal Muscle



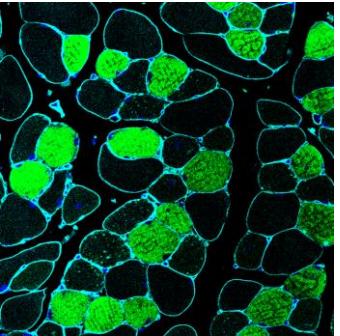


Histospeck now offers: Muscle fiber typing **Image Analysis** services

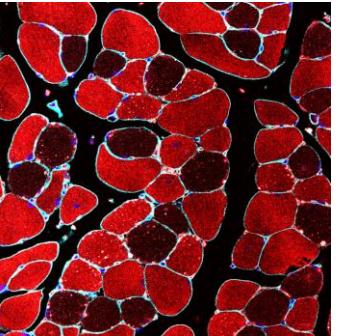
Membrane Marker



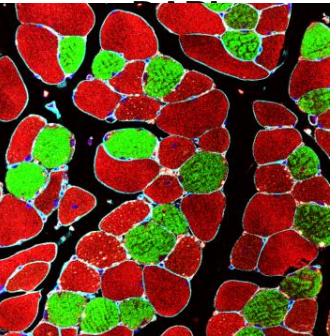
Slow Muscle



Fast Muscle

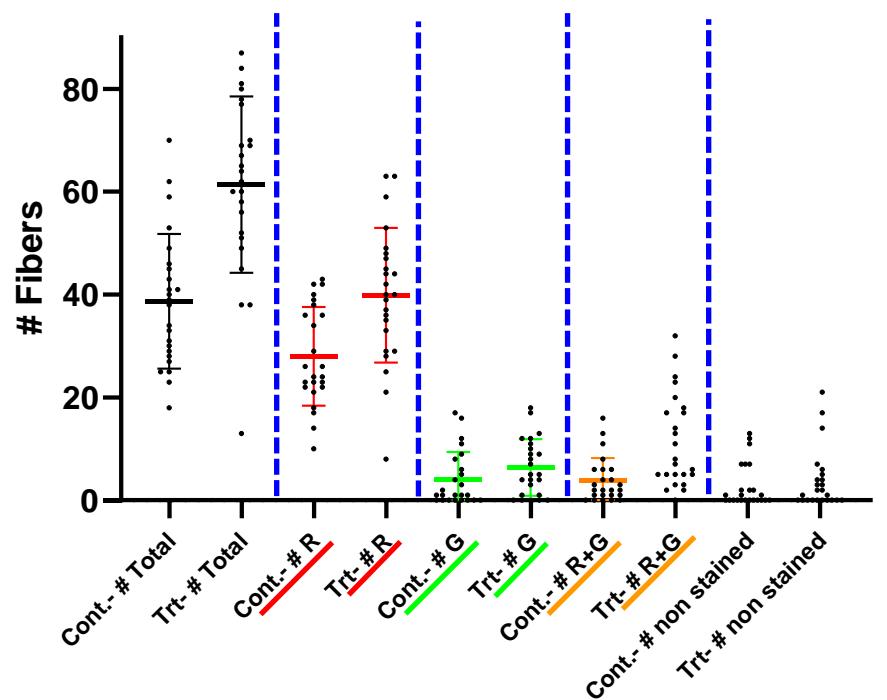


Merged (+)

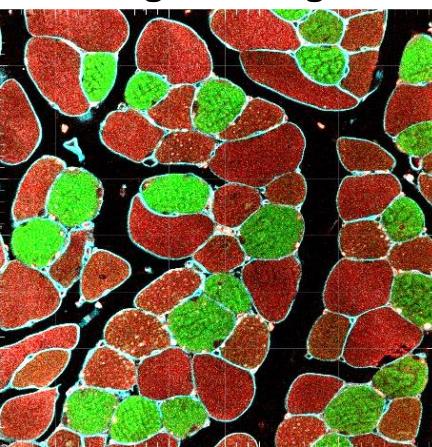


# of Fibers		
Group	Cont.	Trt
TOTAL #	38.71	61.38
# R Fibers	28.00	39.88
# G Fibers	4.08	6.38
#G+R Fibers	3.83	11.38
#No stain Fibers	2.75	3.75

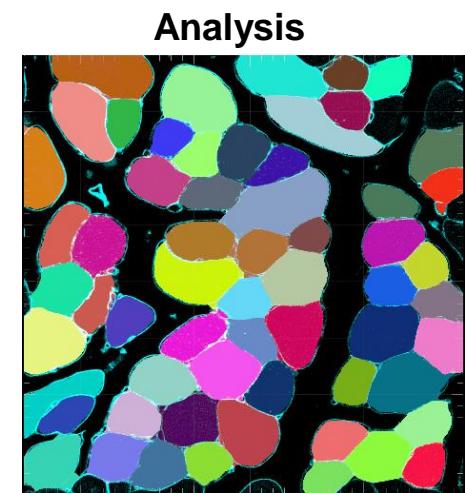
Fibers Area (μm^2)		
Group	Cont.	Trt
TOTAL #	4574.61	3791.66
# R Fibers	4814.24	4105.22
# G Fibers	3433.90	2864.01
#G+R Fibers	2915.34	2548.58
#No stain Fibers	3635.49	4446.15



Fiber Typing analysis



Original Image



Analysis

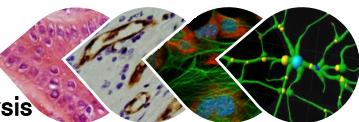
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Histospeck now offers:

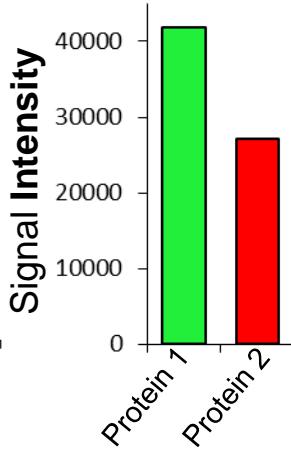
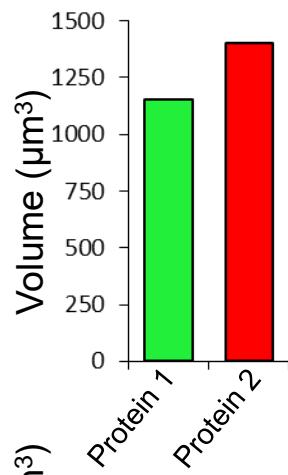
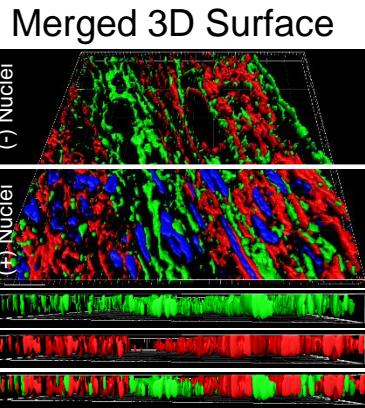
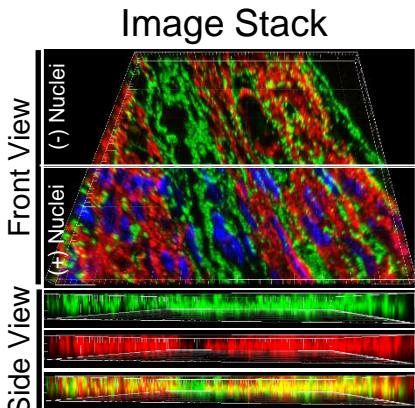
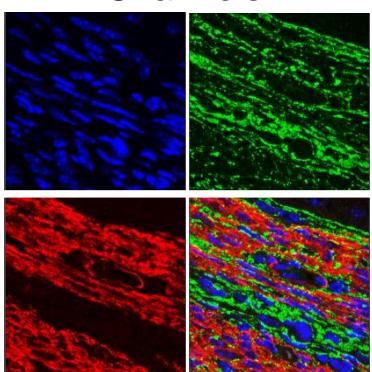
Histology and MRI 3D Image analysis services

Histospeck
Histology, Cytology & Image Analysis

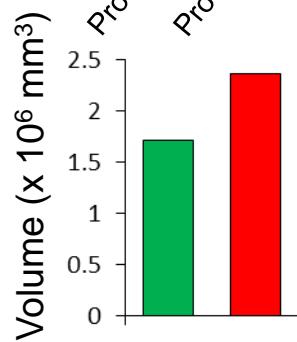
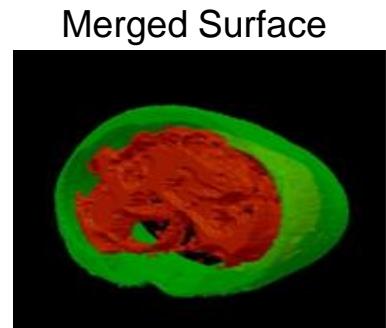
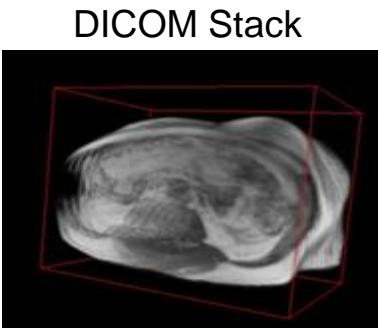
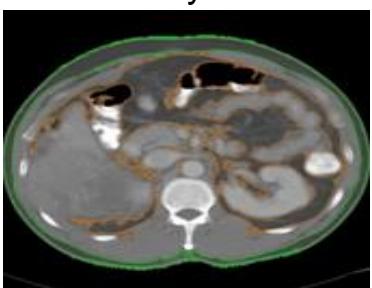


Signal Quantification- 3D Volume

Histology-Confocal



MRI

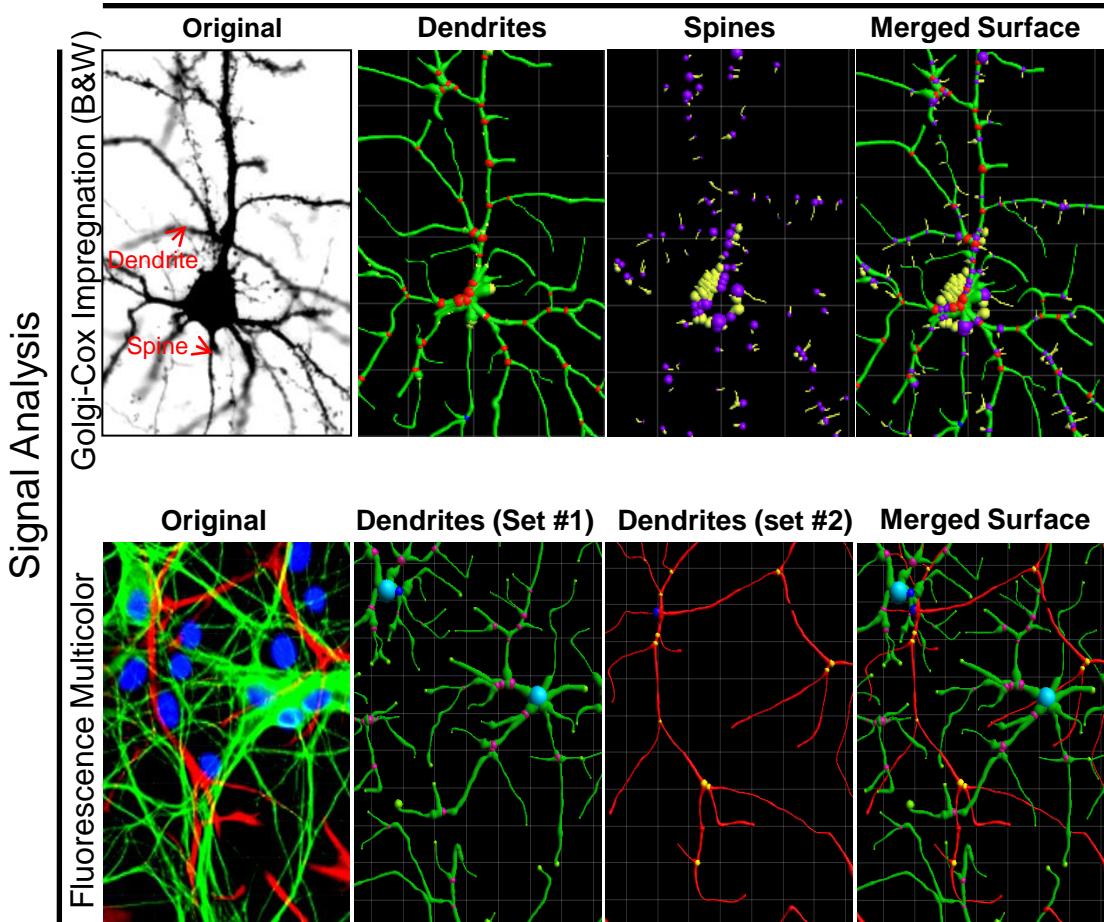


SC Fat	$1.7 \times 10^6 \text{ mm}^3$
Visceral Fat	$2.3 \times 10^6 \text{ mm}^3$

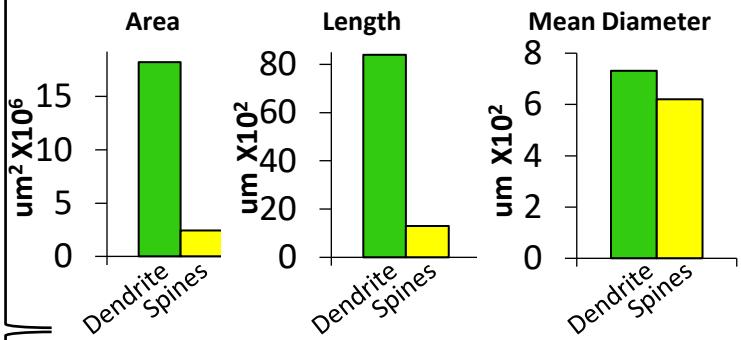
For details: Dr. Itay Spektor ☎ +972-50-4690708 ✉ Itay@histospeck.com 🌐 www.histospeck.com

Histospeck now offers:

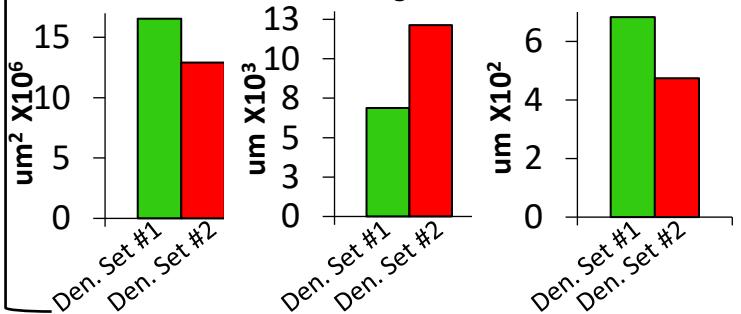
2D+3D Neuron histology Image analysis services



Dendrite- **Green**; Dendrite branch point- **Red**
Spines- **Yellow**; Spines attachment point- **Purple**



Den. (set #1)- **Green**; Den. branch point (set #1)- **Purple**
Den. (set #2)- **Red**; Den. branch point (set #2)- **Yellow**

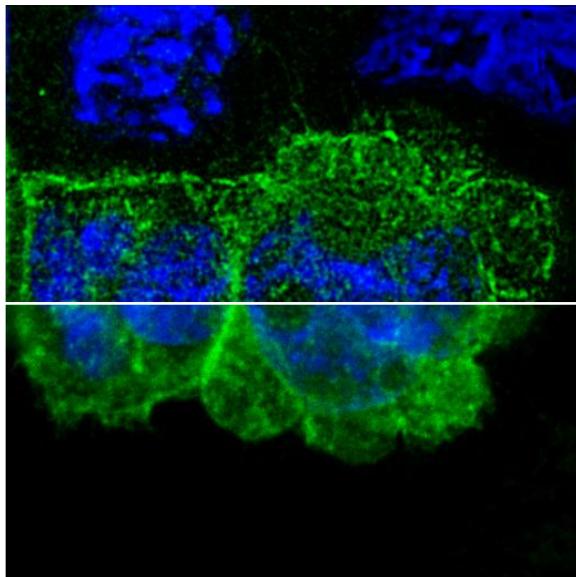
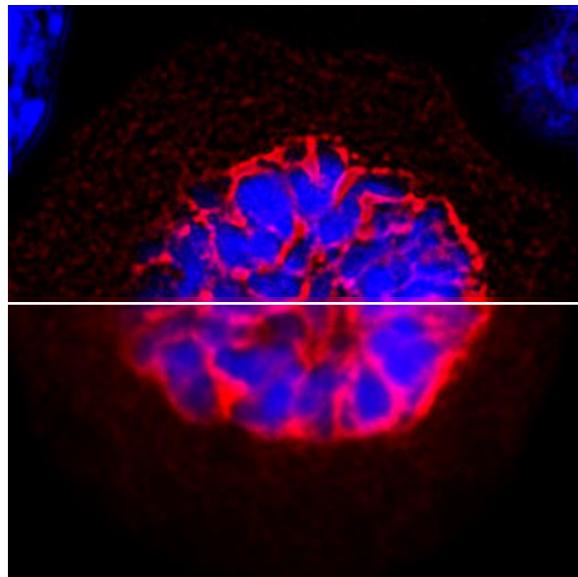
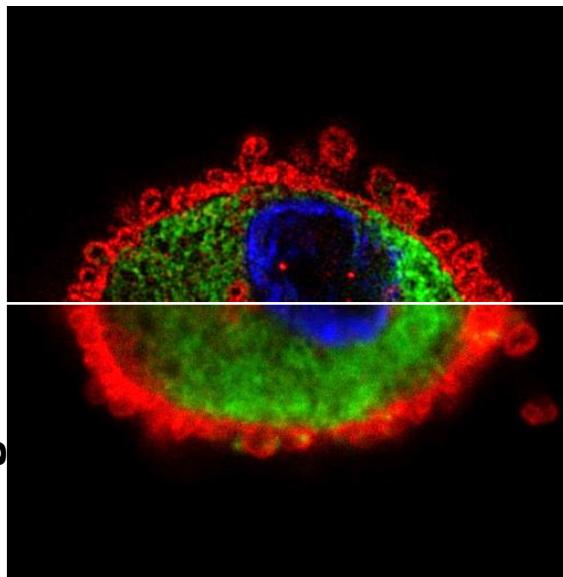


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Histospeck now offers: **Image De-Convolution** services

Immunocytochemistry (ICC) Image

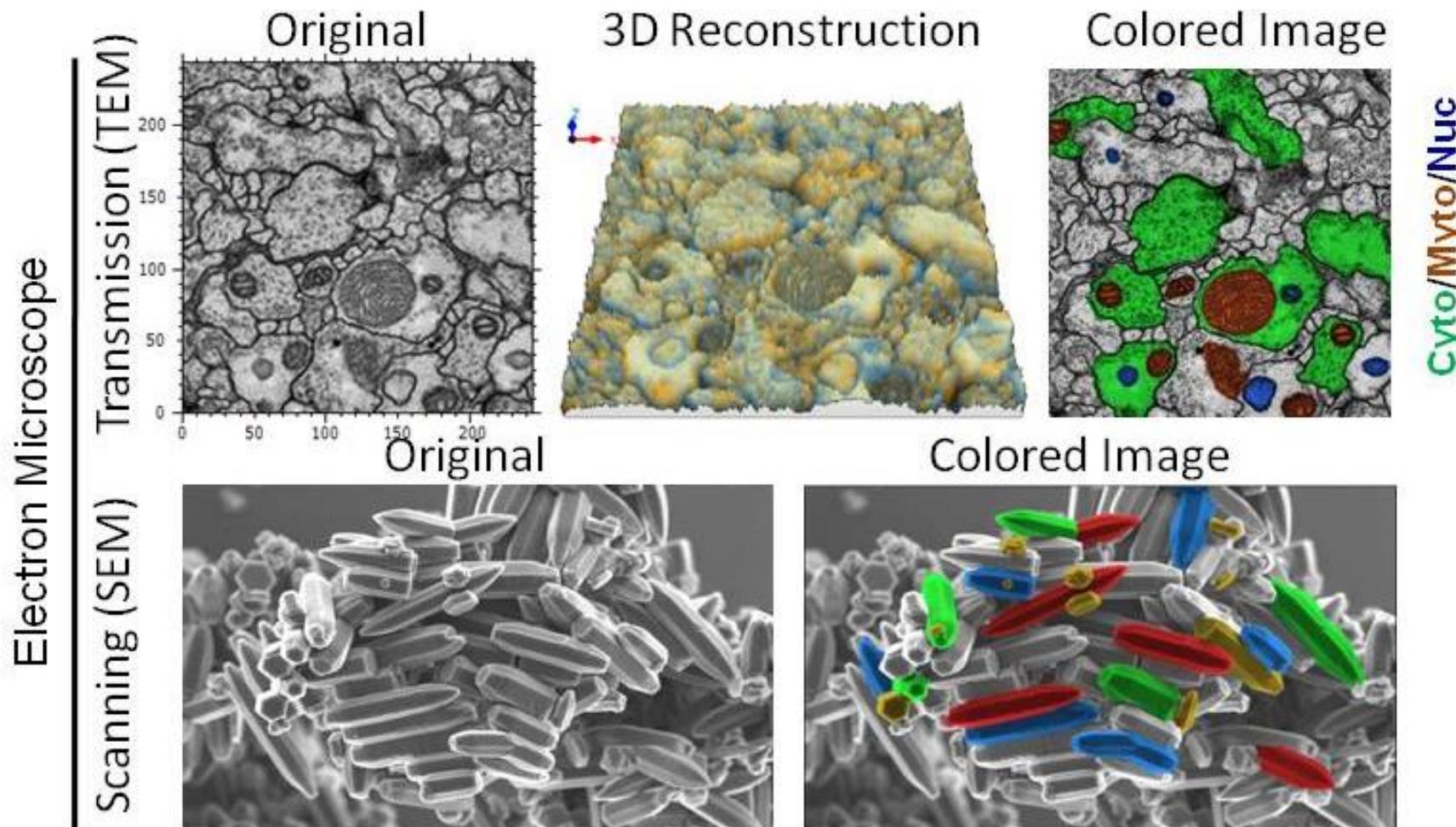
Original Deconvolve



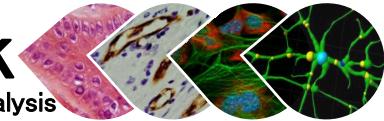
For details: Dr. Itay Spektor ☎ +972-50-4690708 ✉ Itay@histospeck.com 🌐 www.histospeck.com

Histospeck now offers:

2D+3D Electron Microscopy Image Analysis Services



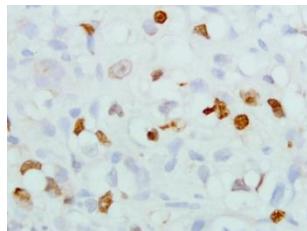
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Histospeck now offers: **Tumor IHC services**

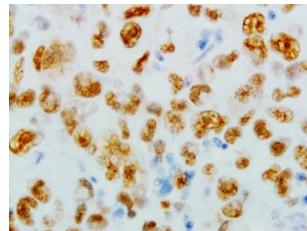
HRP

Proliferation
Marker #1



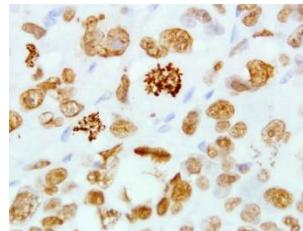
TGFβ2+ TGFβ3
(inflammation)

DS DNA breaks repair
Marker#1



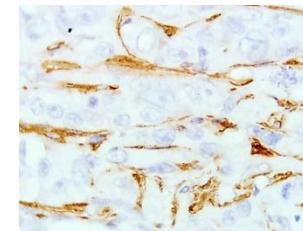
Apoptosis Marker #1

DS DNA Damage



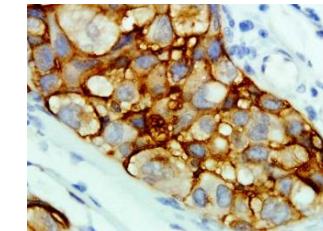
Apoptosis Marker #4-
(apoptosis)

Fibroblasts Marker #1



Apoptosis Marker #1+
Apoptosis Marker #4-

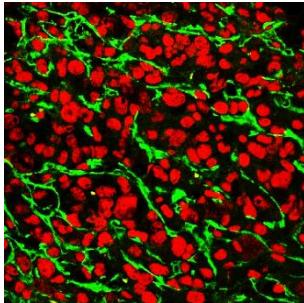
Hu cell Marker#2
(Tumor)



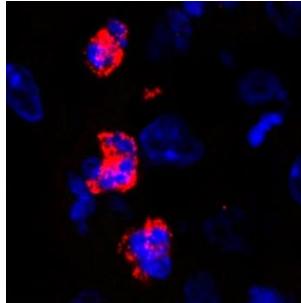
H&E
(Morphology)

Fluorescence

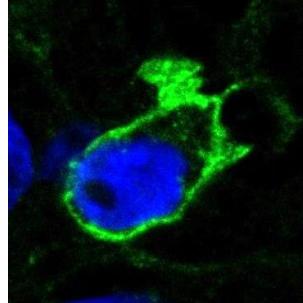
Fibroblasts M#1+
Hu cell Marker#1



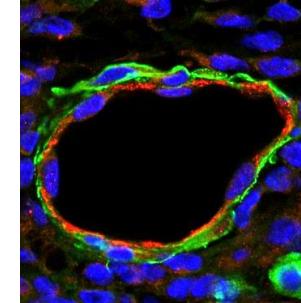
MMP-9
(Metalloproteinase)



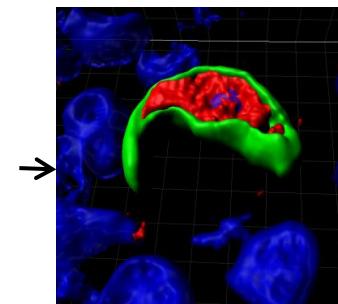
Hematopoietic cells
marker #1



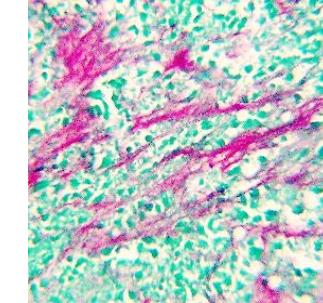
Fibroblasts M#1+
Endothel Marker #1



3D Reconstruction



Sirius Red
(Collagen I+III)



H&E {(Mostly) Innate cells}

(Inflamed Lung)

Neutrophils

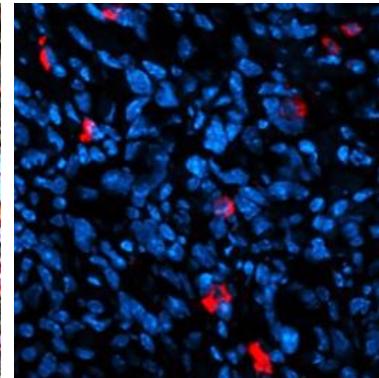
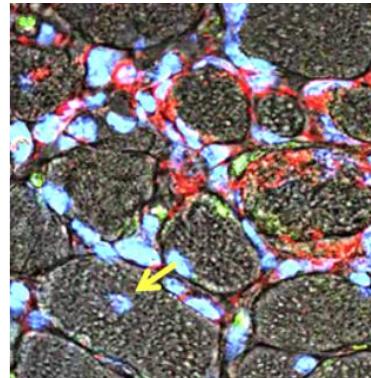
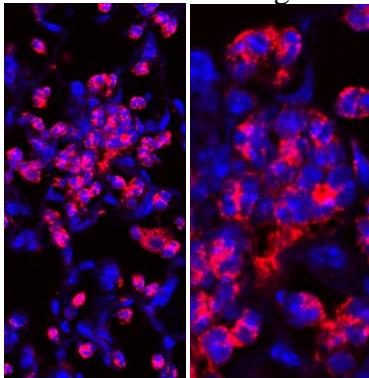
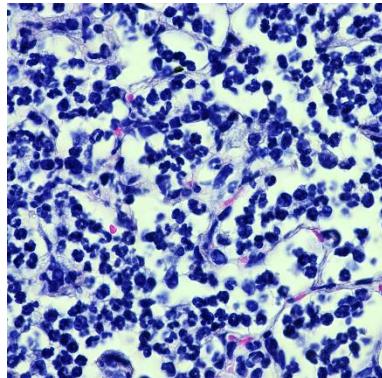
(Inflamed Lung) Magnification

Macrophages

(Inflamed Skeletal Muscle)

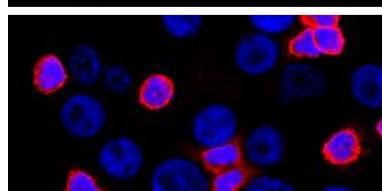
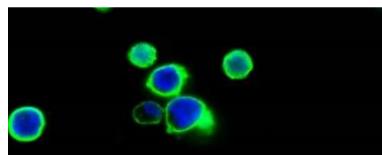
Mast Cells

(Tumor)

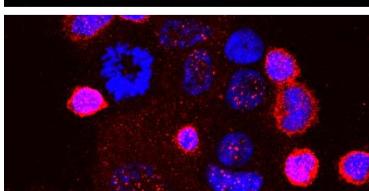
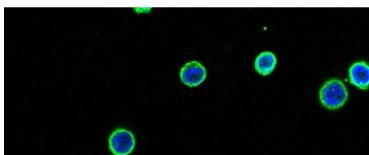


Hematopoietic cells marker #1

Paraffin

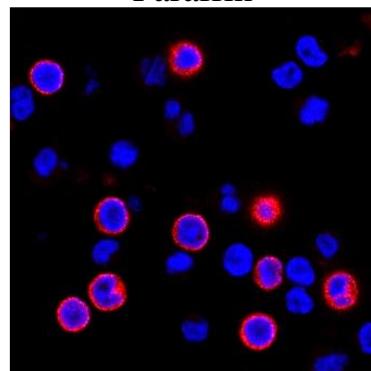


T cells Marker#1

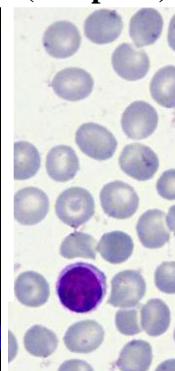


Tc (cytotoxic)

Paraffin



Giemsa Stain Lymphocyte (Adaptive)

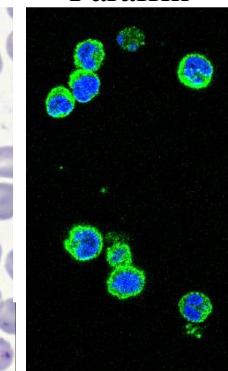


Giemsa Stain Granulocyte (Innate)



Myeloid cells

Paraffin



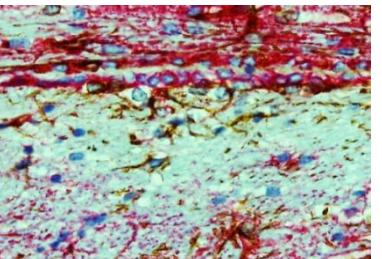
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Histospeck now offers: **Nervous System (CNS/PNS) IHC services**

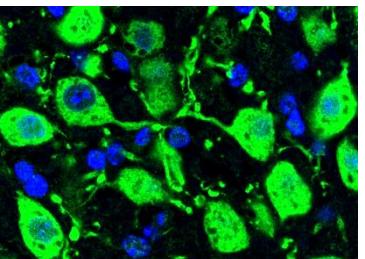
H&E
(Cerebellum, Sagittal)



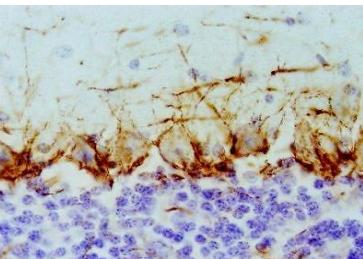
Multiplex IHC (HRP+AP)-
Astrocytes M#2 (perimicrovessel astrocyte)+ **Astrocytes M#1**



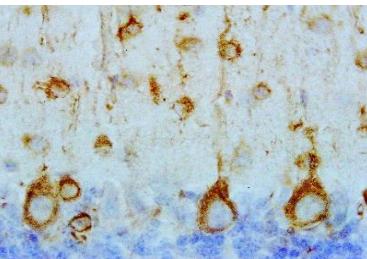
Neuron Marker #4
(Neuron-cytoskeleton)



Neuron Marker #3
(Myelinated Neurons)



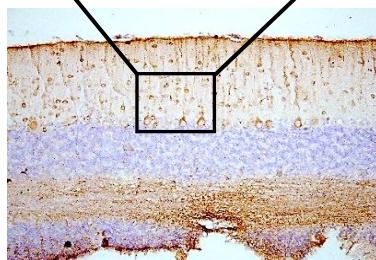
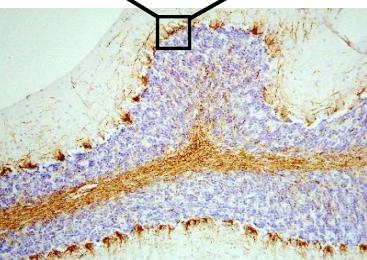
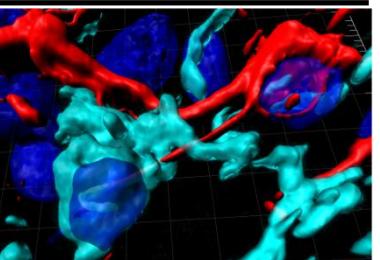
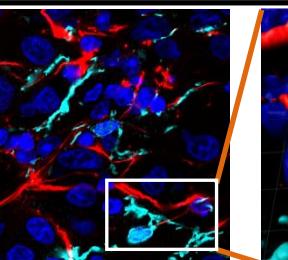
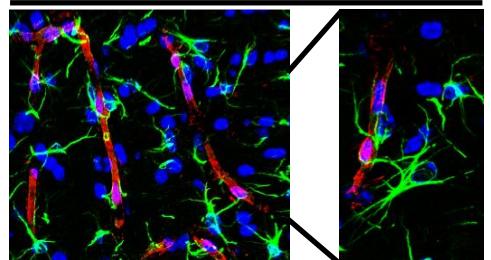
Neuron Marker #1
(Neuron microtubule)



Astrocytes M#2 (perimicrovessel ast)+ **M1+M2 Macrophages #1+** **Astrocytes Marker #1**
Astrocytes M#1

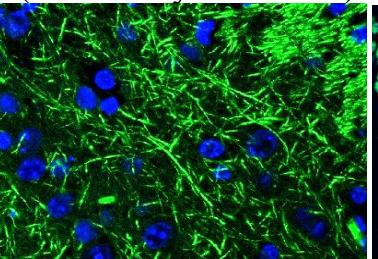
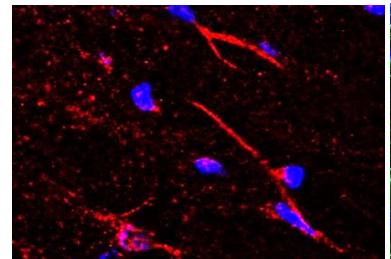
2D

3D Reconstruction

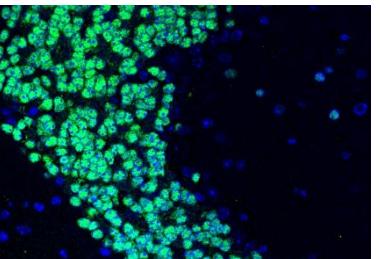


Oligodendrocytes/ Myelinating Schwann cells

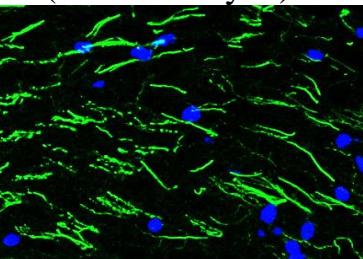
Neuron Marker #5
(Neuron-cytoskeleton)



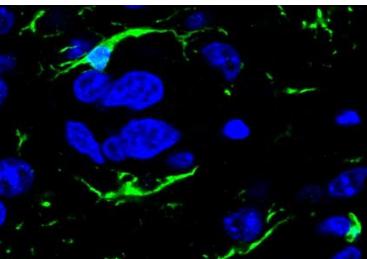
Neuron Marker #2



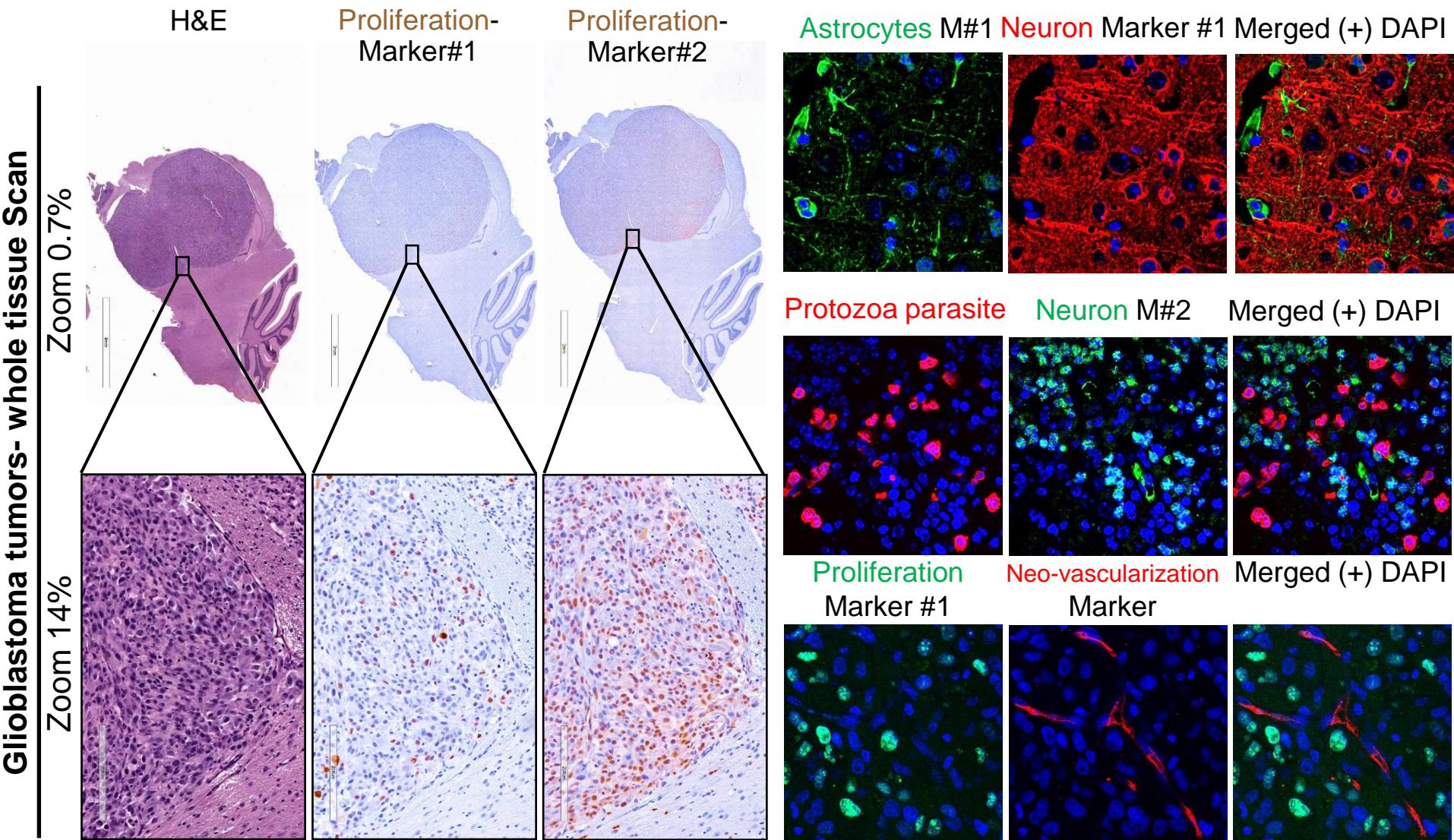
Astrocytes Marker#3
(Pan-Astrocyte)



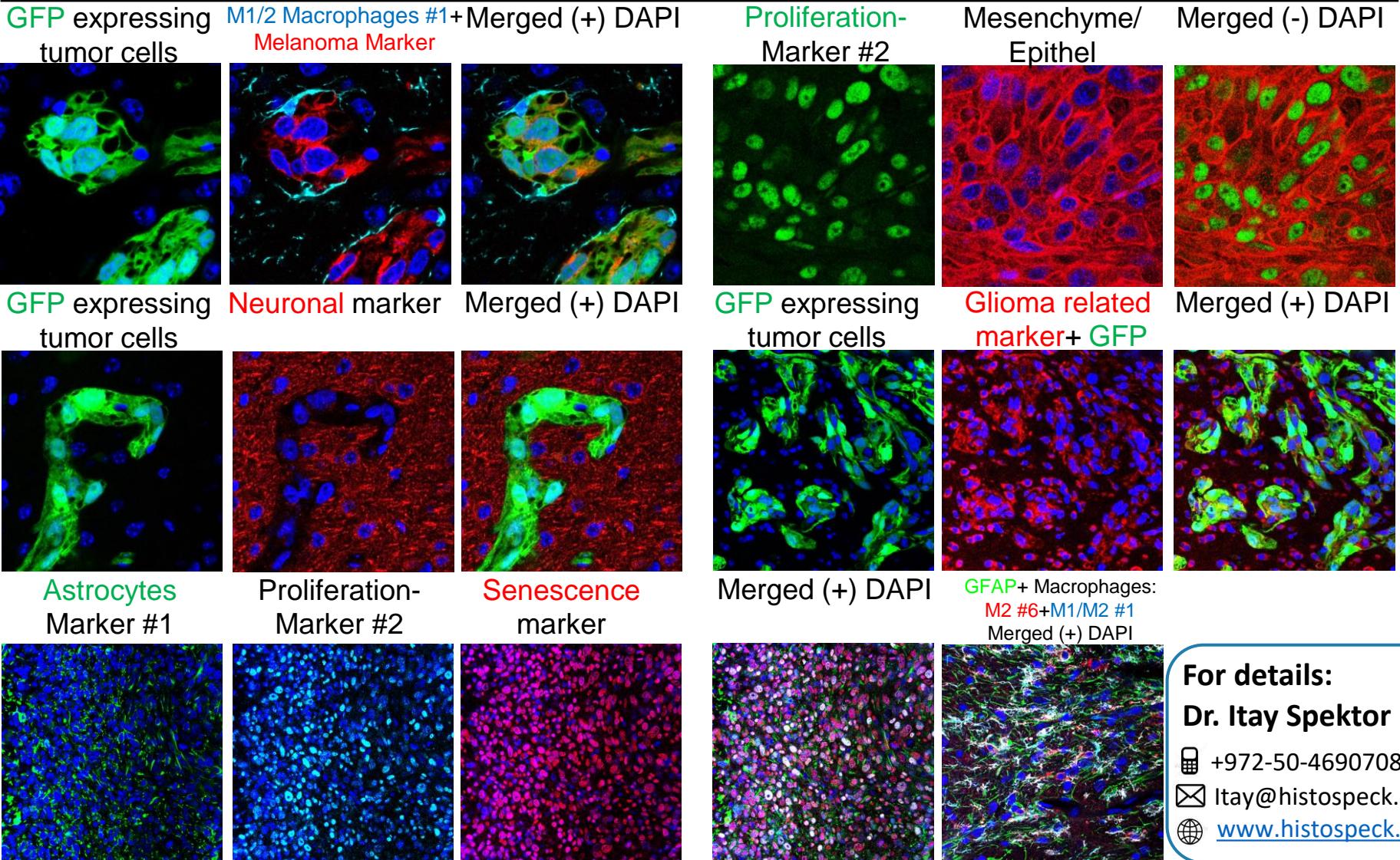
M1+M2 Macrophages #1
(Microglia/Macrophage)



Histospeck now offers: **Nervous System (CNS/PNS) IHC services** (2nd brochure)



Histospeck now offers: **Nervous System (CNS/PNS) IHC services** (3rd brochure)

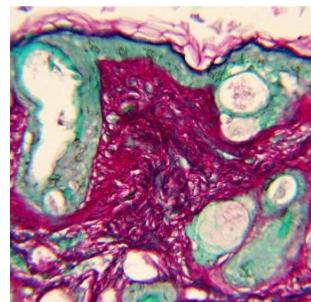


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 Itay@histospeck.com
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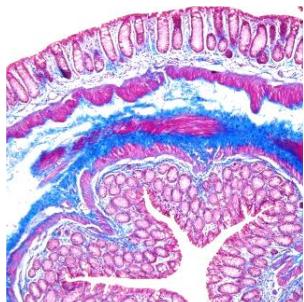
Histospeck now offers: **Extracellular Matrix (ECM) & Fibroblasts IHC services**

ECM
Markers

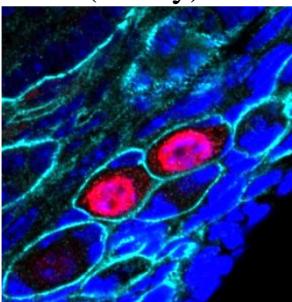
Picro-Sirius Red
(Collagen I, II, III), Skin



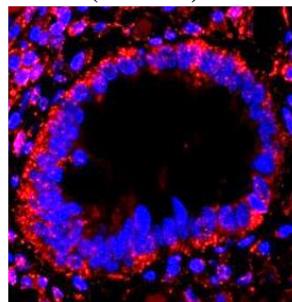
Masson's Trichrome
(Connective tissue)



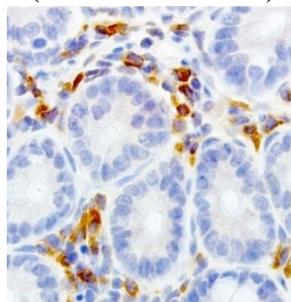
ECM Marker#1-
(Ovary)



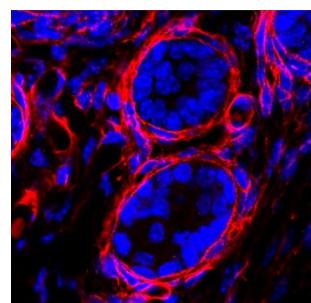
ECM Marker#2-
(Colon)



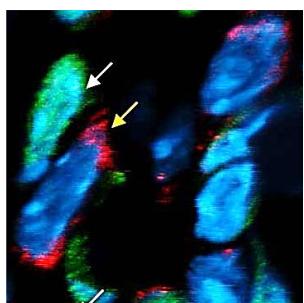
ECM Marker#3-
(Small Intestine)



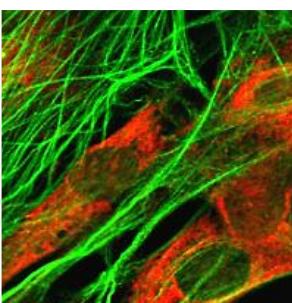
ECM Marker#4-
(Skin)



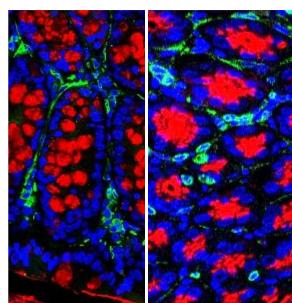
ECM Marker#5
(Tumor)



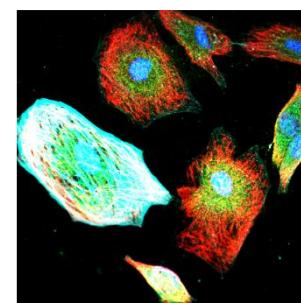
ECM Marker#6+M#2
(Tumor culture)



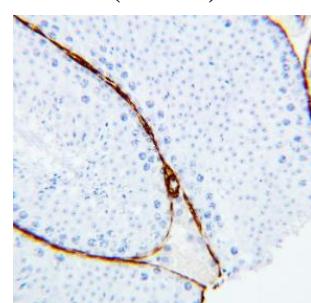
ECM M#7+M#8
(Colon) (Stomach)



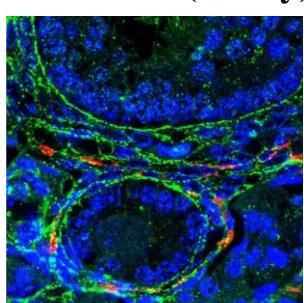
F. Marker #1+#2+#3
(Tumor culture)



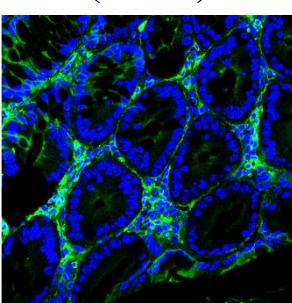
F. Marker#1
(Testis)



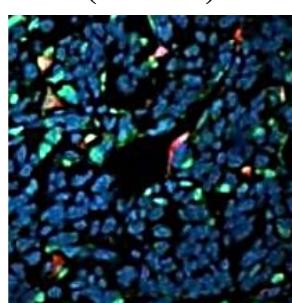
F. Marker#1+
Marker#2 (Ovary)



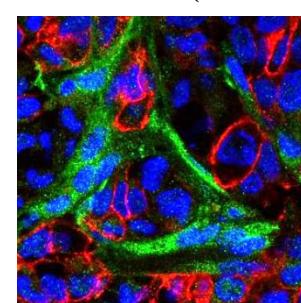
F. Marker#3
(Colon)

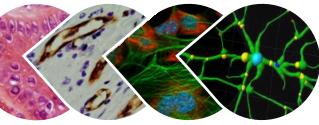


F. Marker#4
(Tumor)

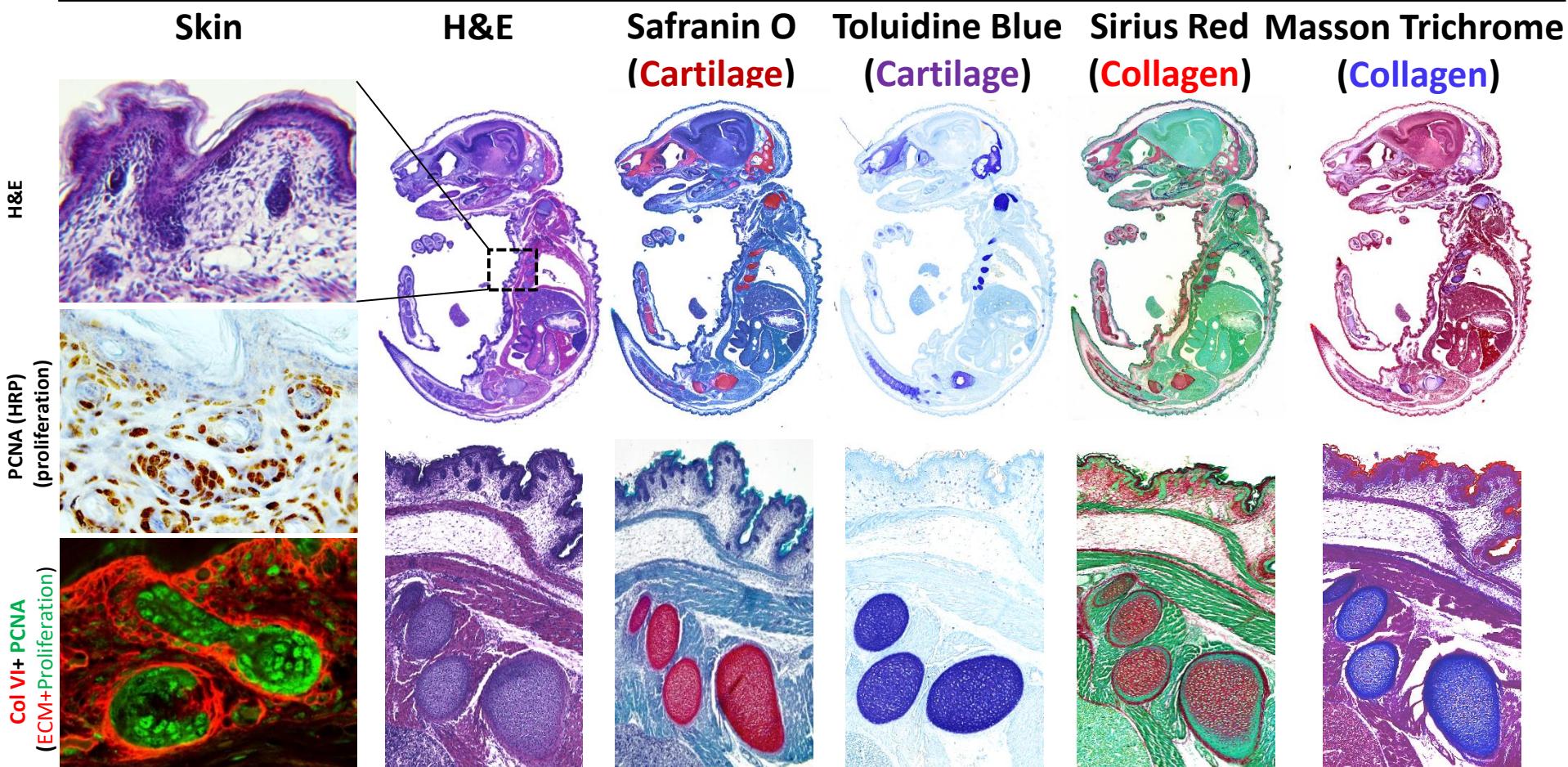


F. Marker#1+
Marker#3 (Tumor)





Histospeck now offers: De-calcified Embryo/Newborn IHC services

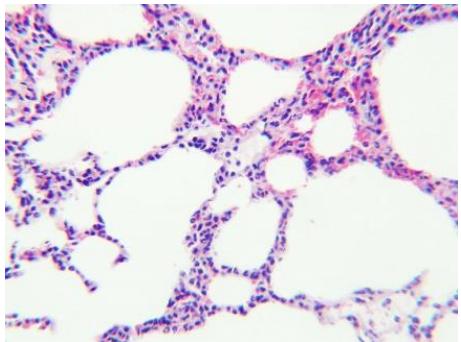


For details: Dr. Itay Spektor ☎ +972-50-4690708 ✉ Itay@histospeck.com 🌐 www.histospeck.com

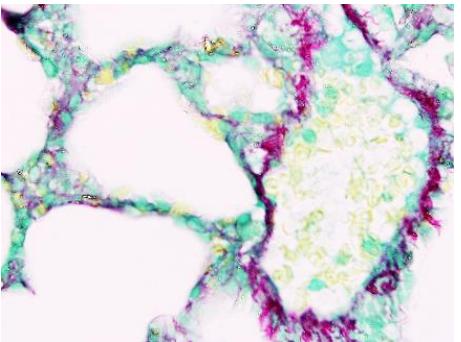
Histospeck now offers: **Lung IHC services**



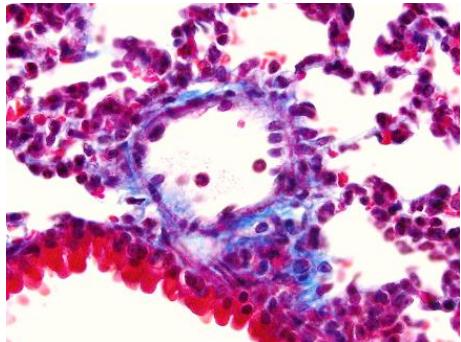
H&E



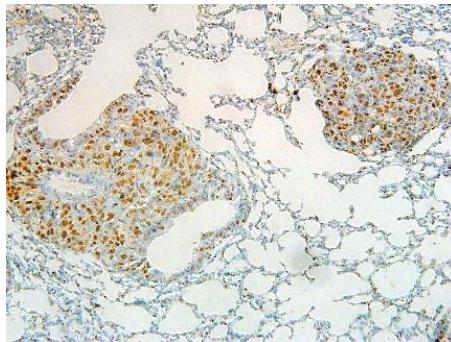
**Collagen Type I+III
(Picro-Sirius Red)**



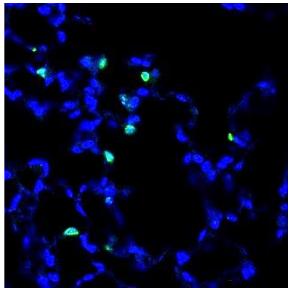
**Collagen Type I
(Masson's Trichrome)**



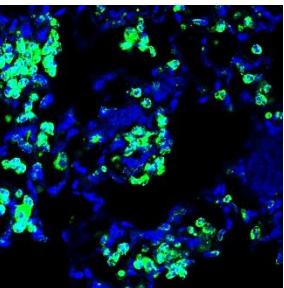
**Lung with Tumor-
Proliferation M#2**



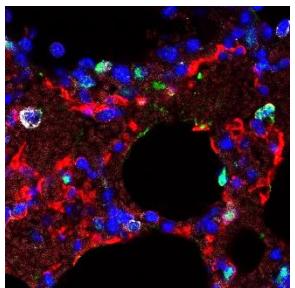
Control Lungs



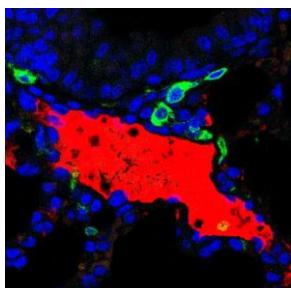
Inflamed Lungs



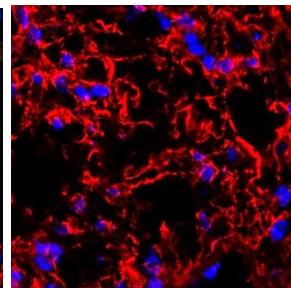
**Proliferation M#2+
Neo-vascularization M.
+Mesenchyme/Epithel**



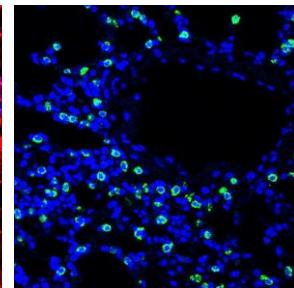
**ECM M#8
+Hematopoietic M#1**



Fibroblasts M#3

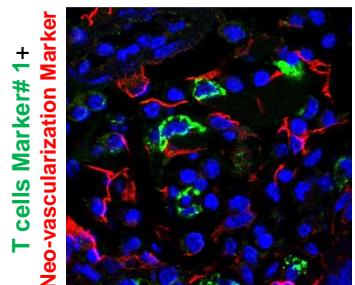
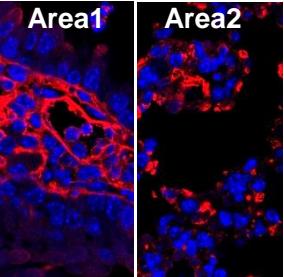
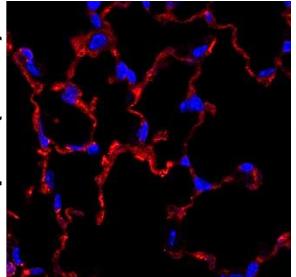


Epithel Marker #3



Neutrophils

**SARS-CoV-2
Receptor (ACE2)**



**T cells Marker# 1+
Neo-vascularization Marker**

For details:

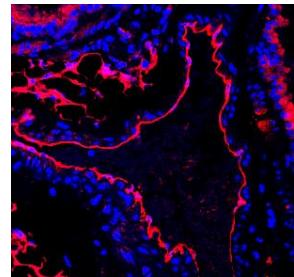
Dr. Itay Spektor

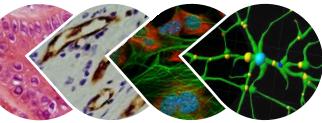
+972-50-4690708

Itay@histospeck.com

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Endothel Marker #1

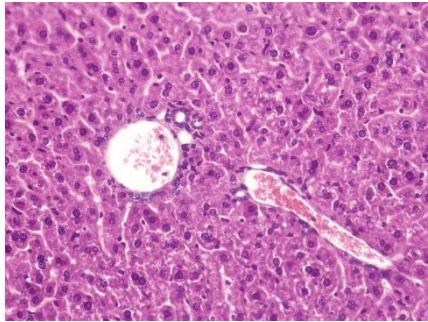




Histospeck now offers: **Liver Panel services** (2nd brochure)

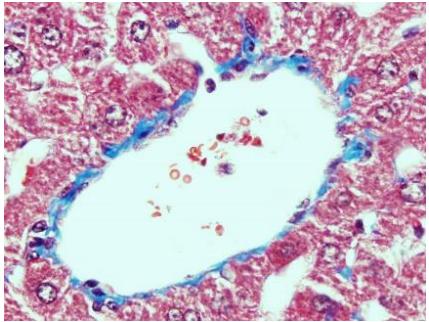
H&E

(Morphology)



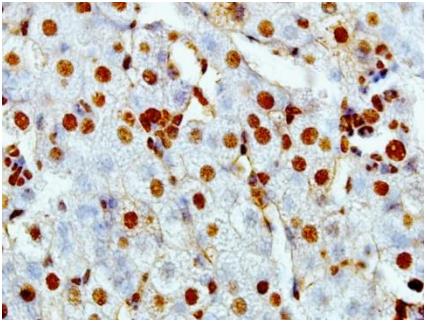
Masson Trichrome

(connective tissue)



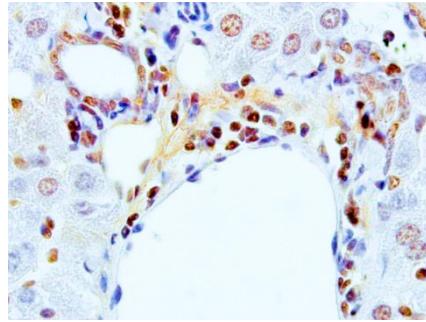
Proliferation

Marker #2

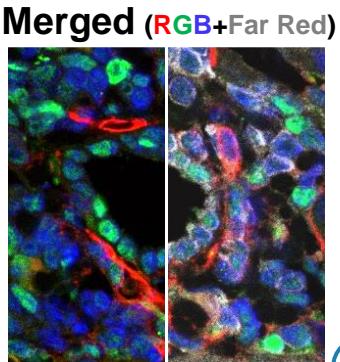
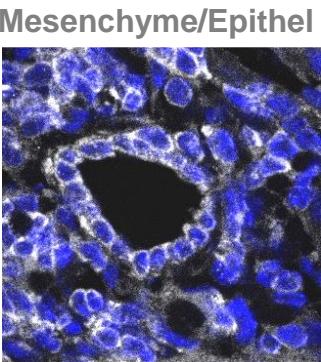
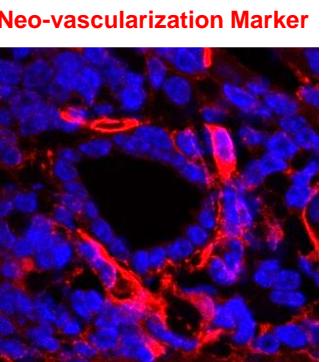
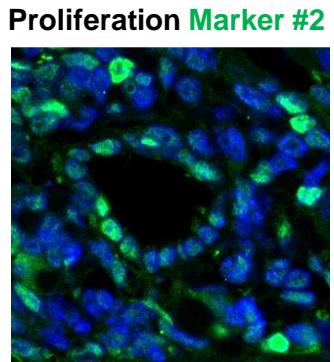


FOXO3A

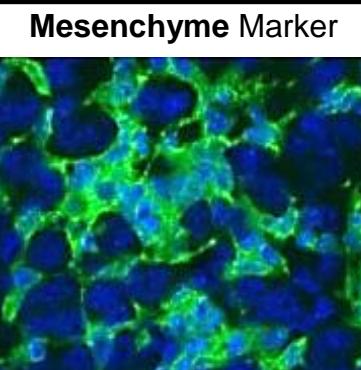
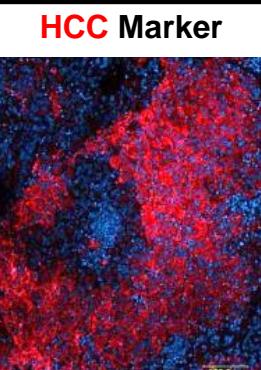
(stress response)



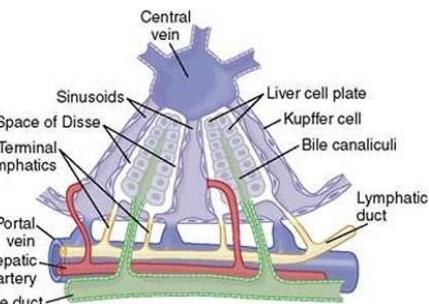
Proliferation+ Neovascularization + Mesenchyme/Epithel



Hepatocellular Carcinoma

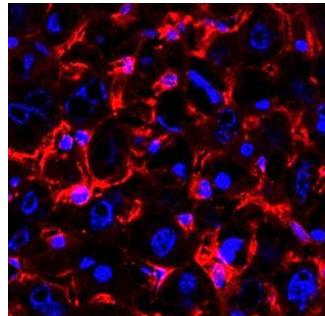


Liver Portal Triad



Fibroblasts

Marker #3



**Histology, Cytology,
Image Analysis &
Scientific Consultation
Services**

For details:

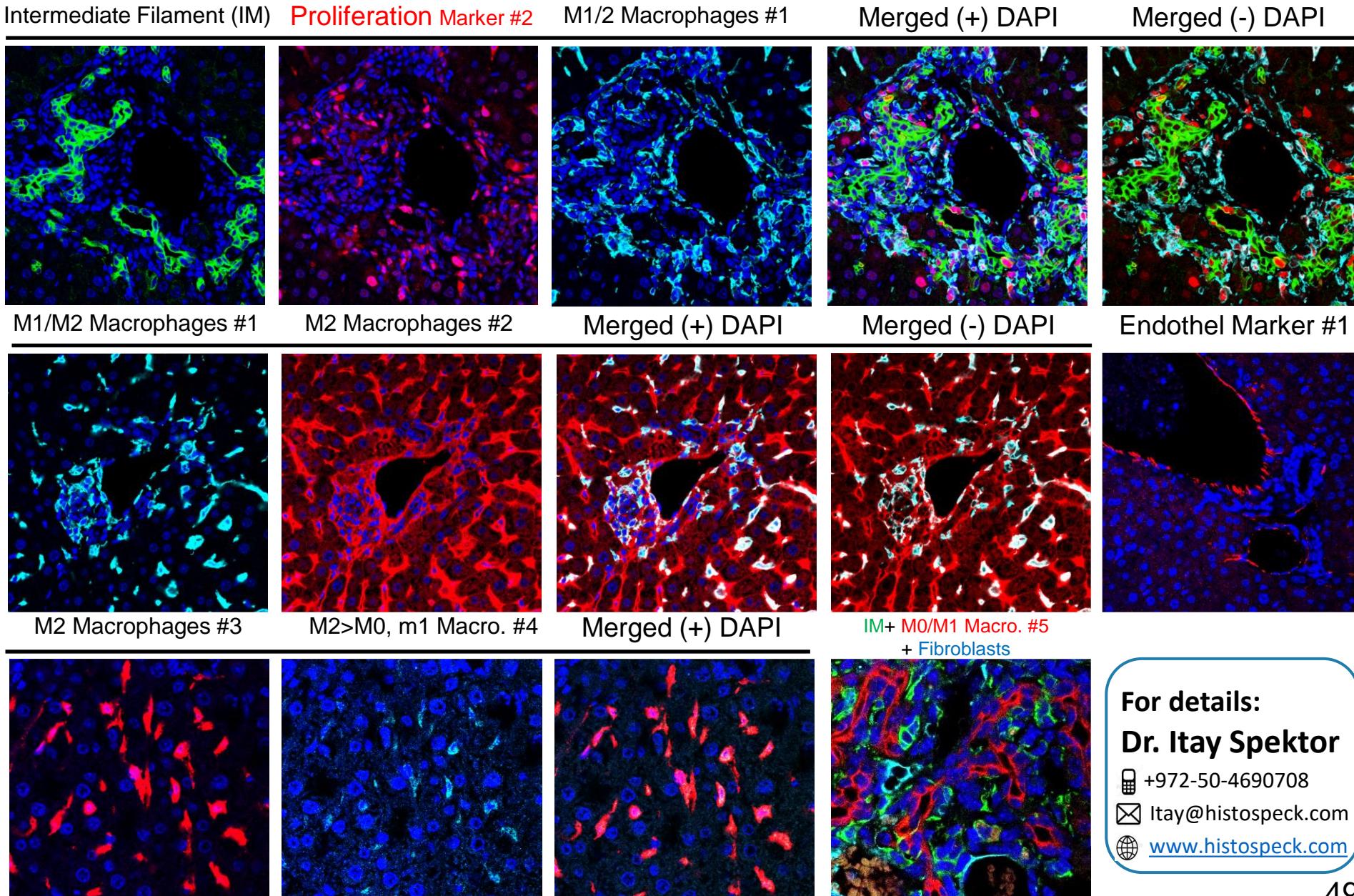
Dr. Itay Spektor

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🌐 www.histospeck.com

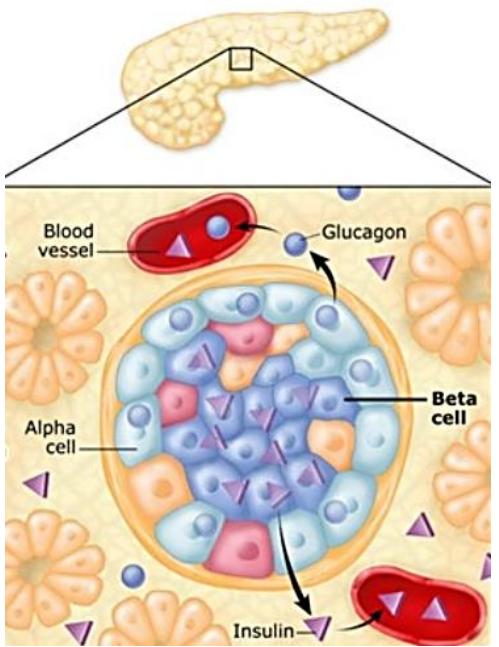
Histospeck now offers: **Liver & Macrophages IHC services**



For details:
Dr. Itay Spektor

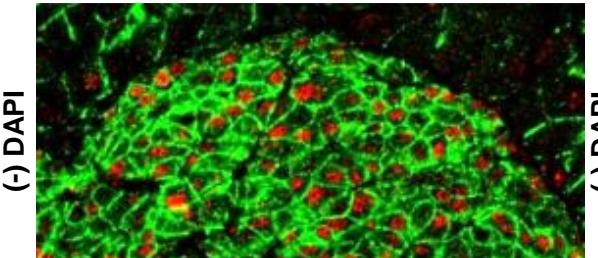
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🌐 www.histospeck.com

Histospeck now offers: **Pancreas+ Islets of Langerhans IHC services**

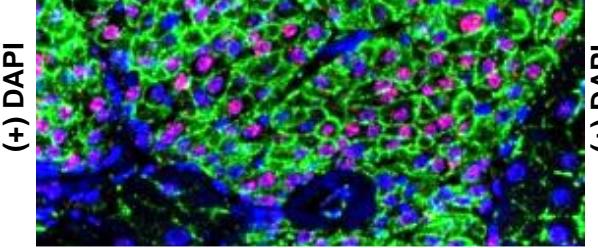


Glucagon (AP)

**Cell-cell adhesion/
DS DNA Damage/DAPI**



(-) DAPI

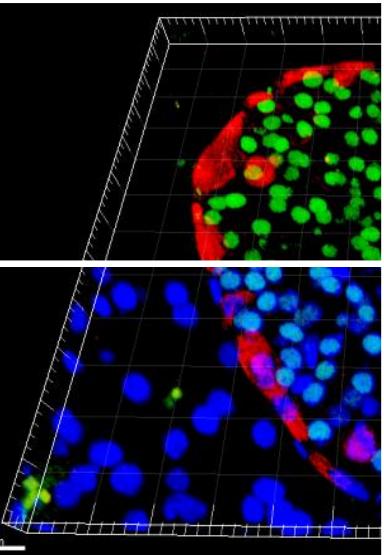


(+) DAPI

Insulin/DAPI

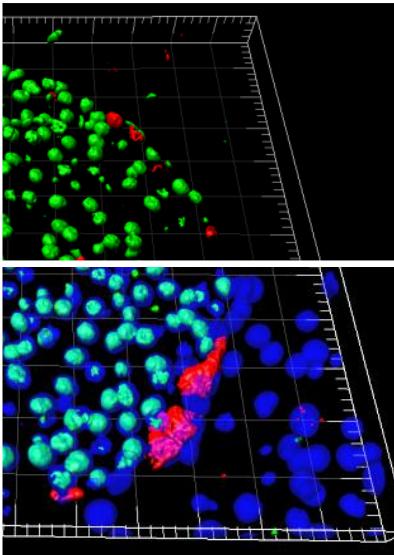
Cell-cell adhesion/Glucagon/DAPI

Fluorescence



(-) DAPI

3D Reconstruction



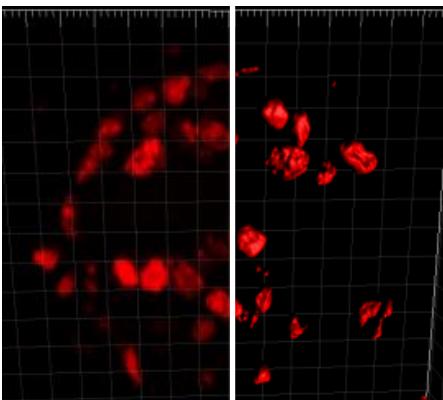
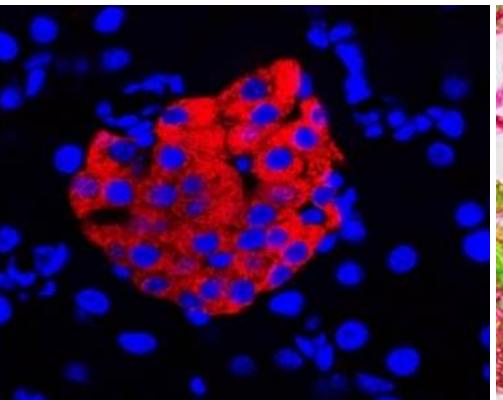
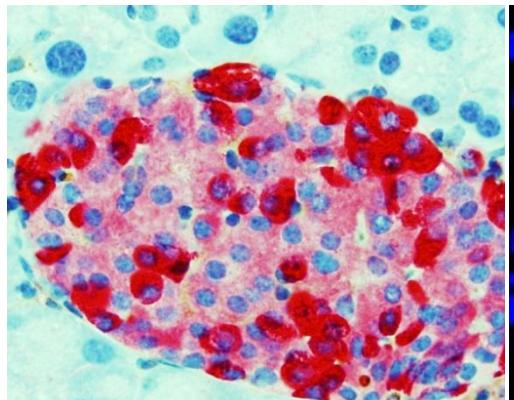
(+) DAPI

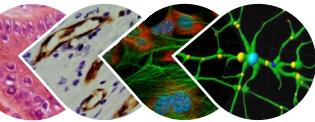
Sirius Red (Collagen)

Fibrotic pancreas

Proliferation M#1

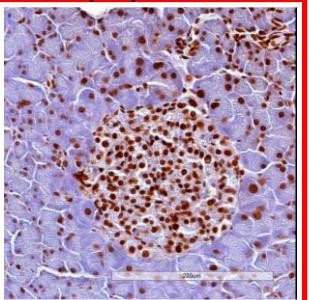
Fluorescence 3D Recon.



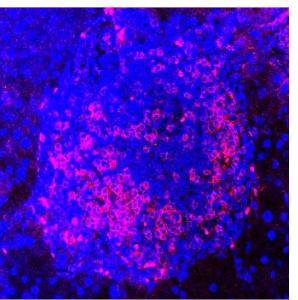


Histospeck now offers: **Pancreas+ Islets of Langerhans IHC services** (2nd brochure)

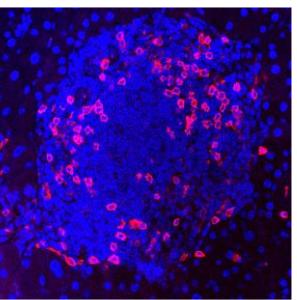
Apoptosis



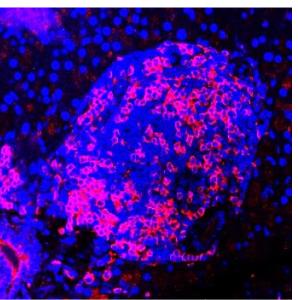
T cells Marker#1



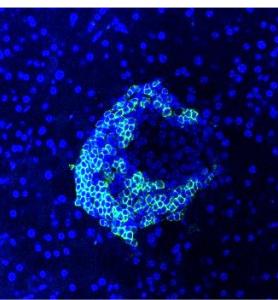
Tc (cytotoxic)



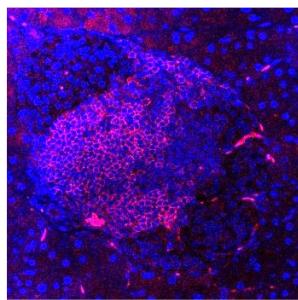
Th (helpers)



B cell maker #1

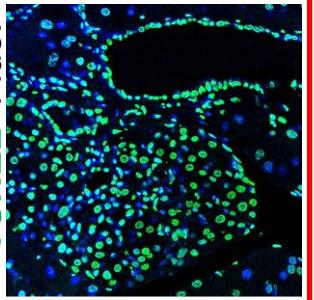


B cell maker #2

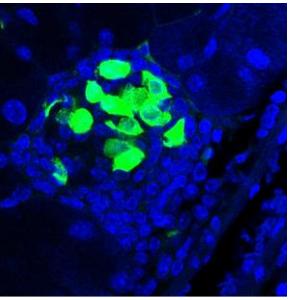


TUNEL- HRP

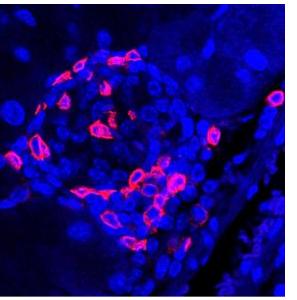
Apoptosis



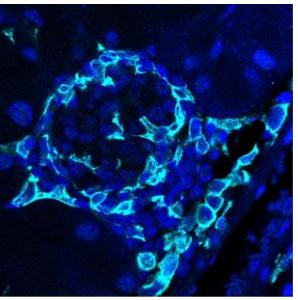
Glucagon



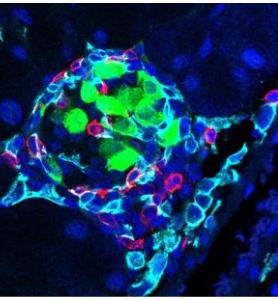
Immune marker



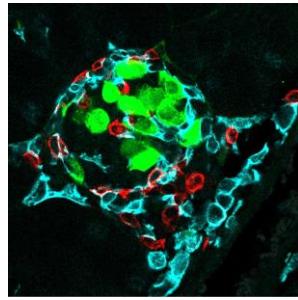
M1/M2 Macrophages #1



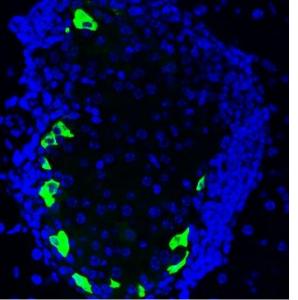
Merged (+) DAPI



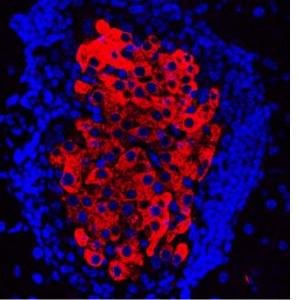
Merged (-) DAPI



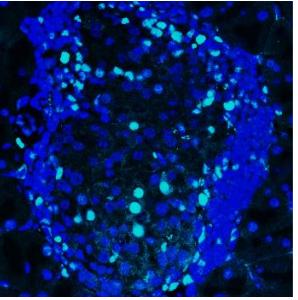
Glucagon



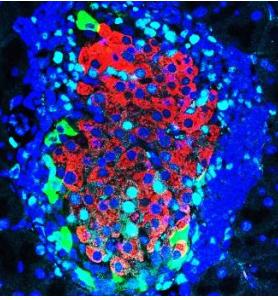
Insulin



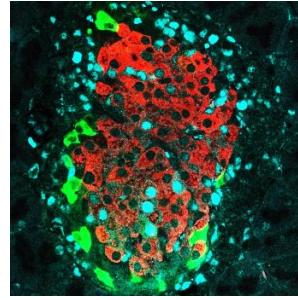
Proliferation M#1



Merged (+) DAPI



Merged (-) DAPI



**Histology,
Cytology,
Image Analysis
& Scientific
Consultation
Services**

For details: Dr. Itay Spektor



+972-50-4690708

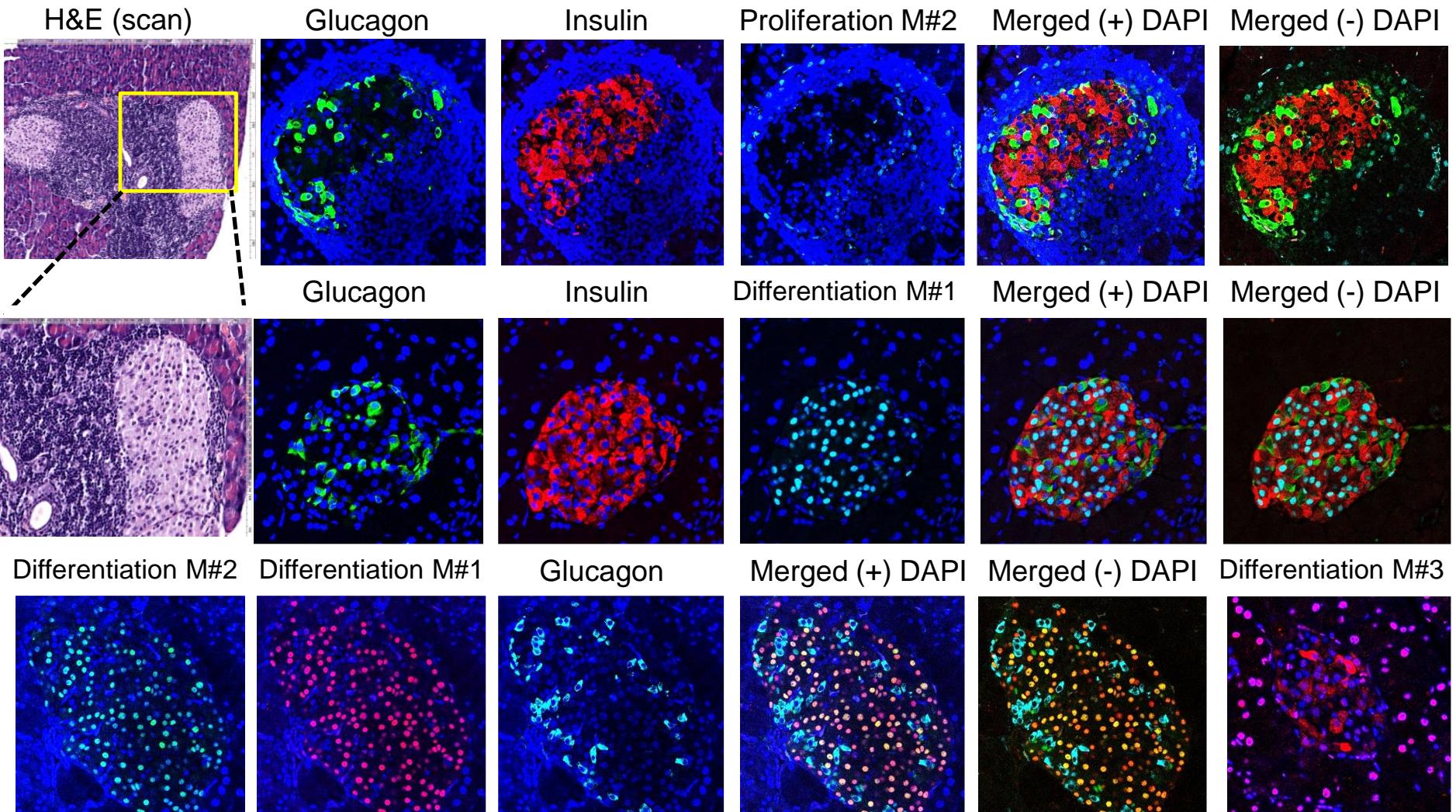


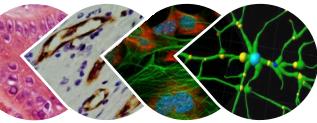
Itay@histospeck.com



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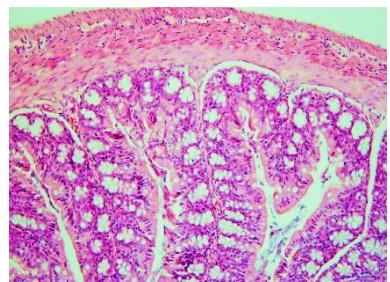
Histospeck now offers: **Pancreas+ Islets of Langerhans IHC services** (3rd brochure)



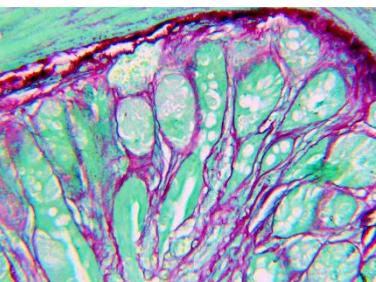


Histospeck now offers: Small Intestine IHC services

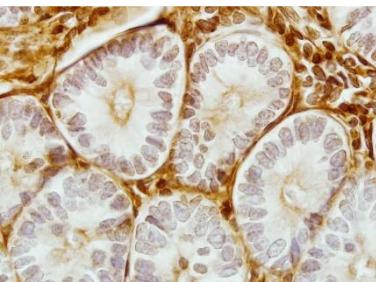
H&E (Morphology)



Proliferation M#1

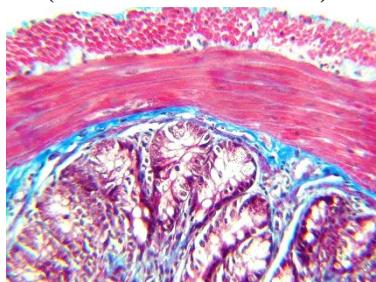


Fibroblasts Marker#1

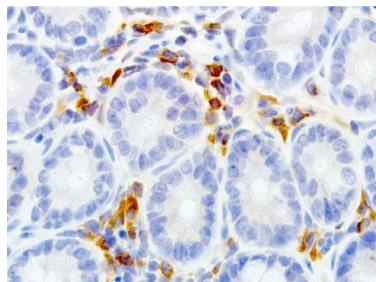


Fibroblasts M#3

Picro-Sirius Red (Collagen I, II, III)



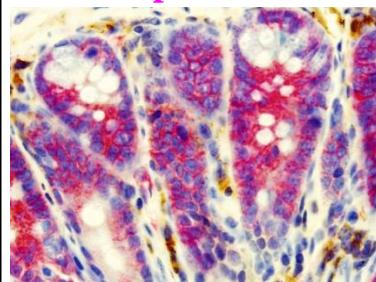
ECM Marker#3



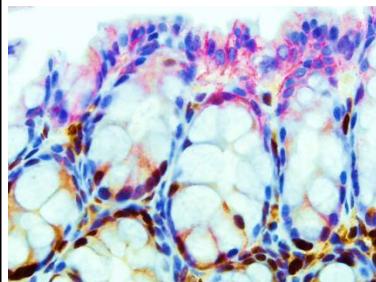
Fibroblasts Marker #1+ ECM Marker #7

Masson's Trichrome (Connective tissue)

Enteric glia cells+ Epithel



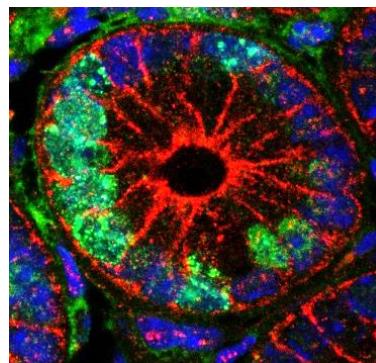
Proliferation M#2+ Cell-cell adhesion



Chromogenic Multiplexing

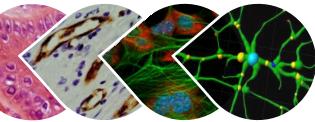
Proliferation M#2+ Neovascularization + Mesenchyme/Epithel

Proliferation M#2+ Cell-cell adhesion

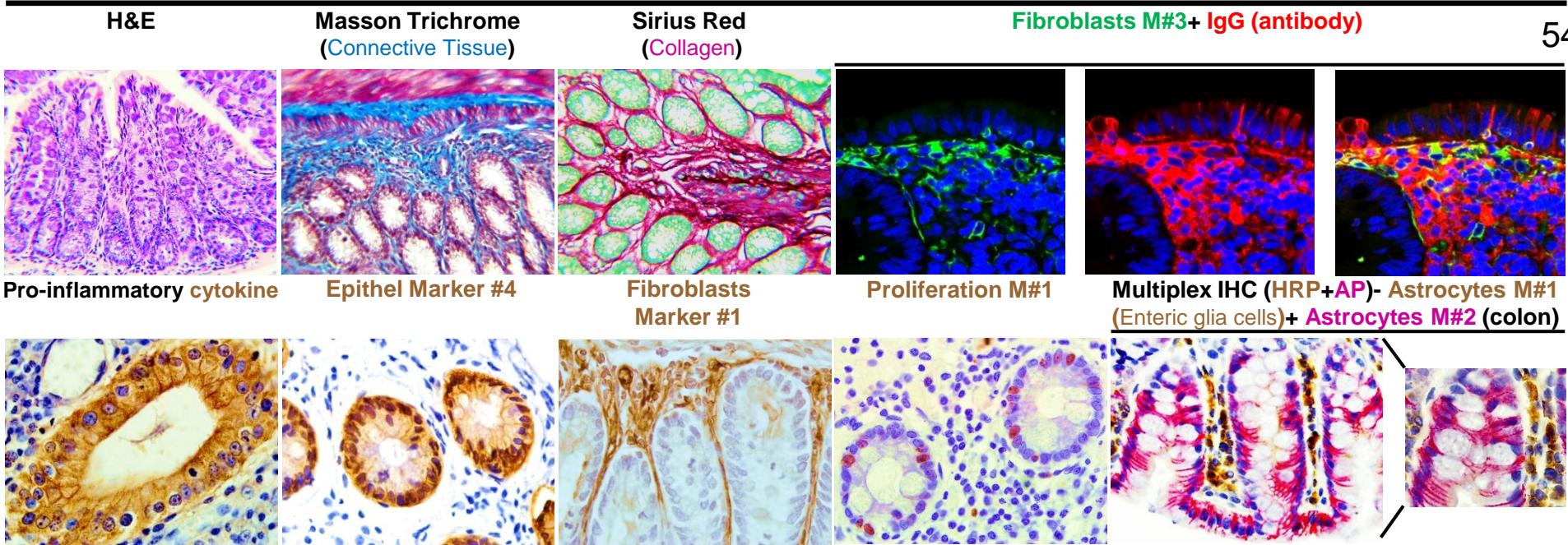


For details:
Dr. Itay Spektor

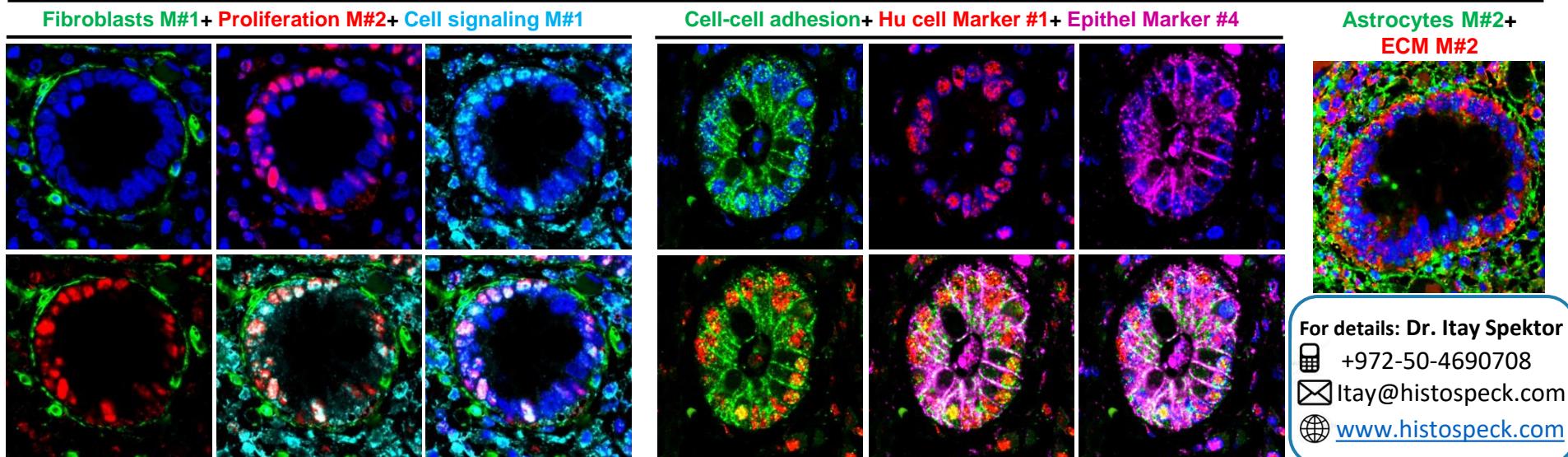
+972-50-4690708
Itay@histospeck.com
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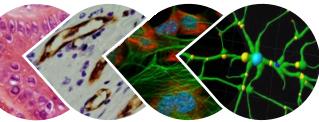
Histospeck now offers: **Large Intestine (Colon) IHC services**



OPAL Multiplex Immunohistochemistry

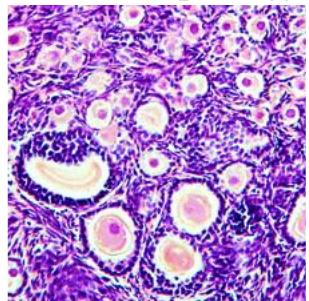


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 ✉ Itay@histospeck.com
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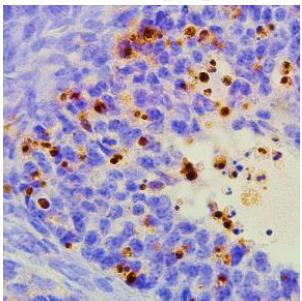


Histospeck now offers: Ovary IHC Services

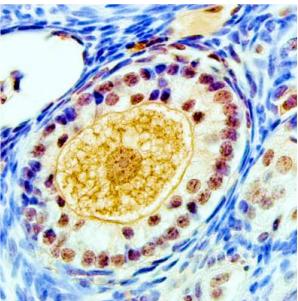
H&E (Morphology)



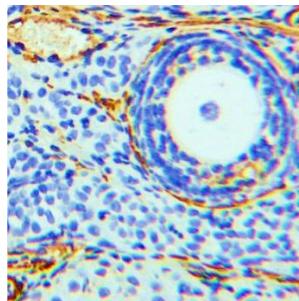
TUNEL (apoptosis)



FOXO3A

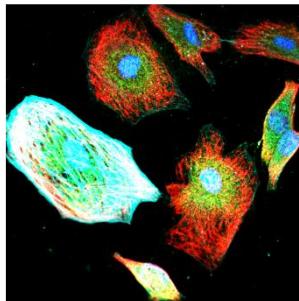


Fibroblasts M#1



Cells: Mesenchyme

M#1+ M#2+ M#3



For details:
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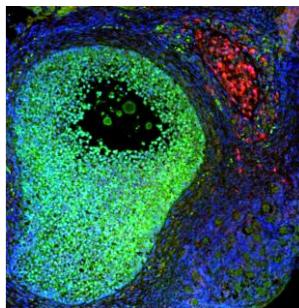
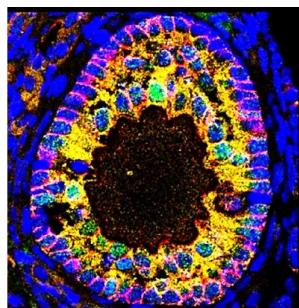
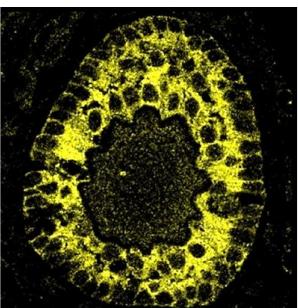
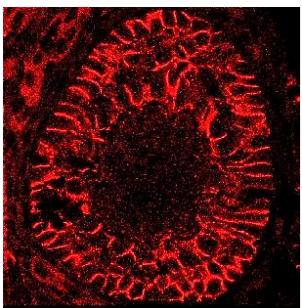
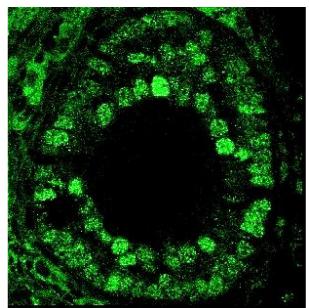
Proliferation M#2

Cell-cell adhesion

Hormone

Merged

SMAD3+SMAD 1/5/9

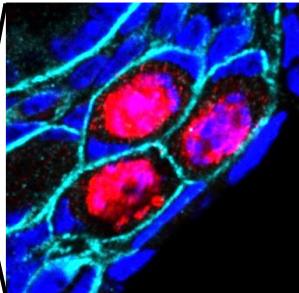
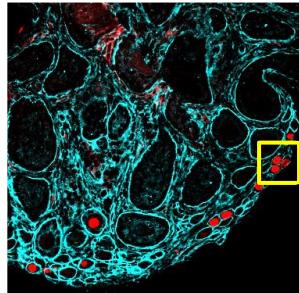
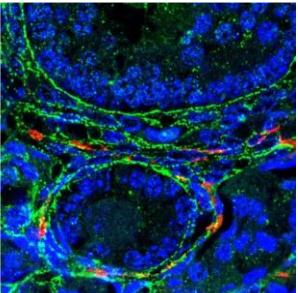
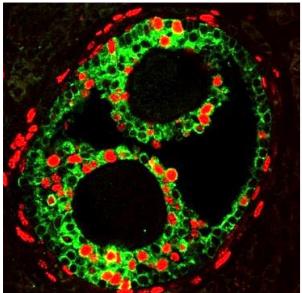
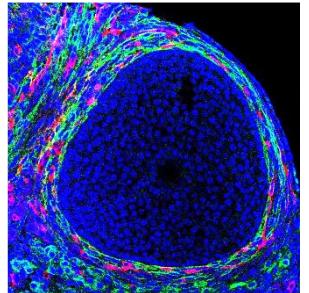


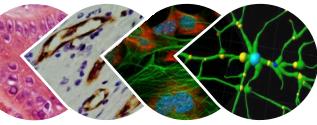
**Neovascularization +
Mesenchyme/Epithel**

**Proliferation M#1+
Hormone**

**Fibroblasts M#1+
Fibroblasts M#2**

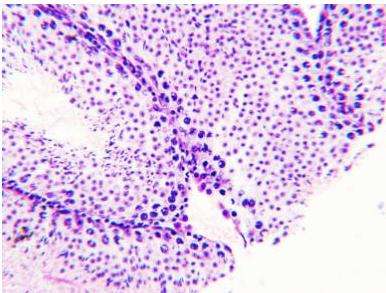
Germ Cells+ ECM (marker#1)



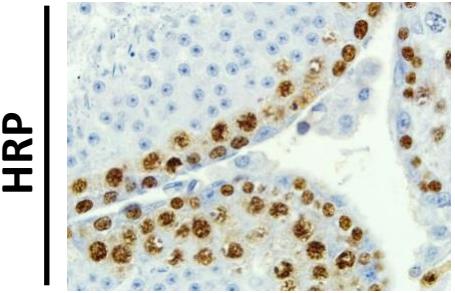


Histospeck now offers: **Testis IHC services**

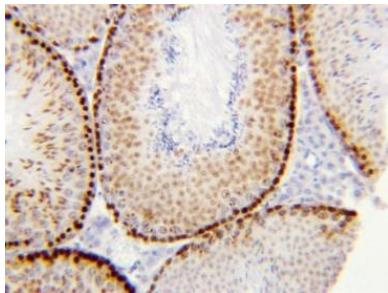
H&E (Morphology)



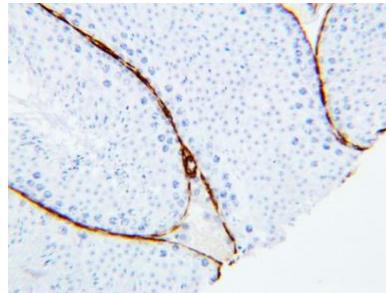
Proliferation



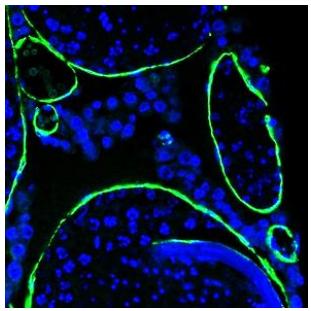
DS DNA Damage



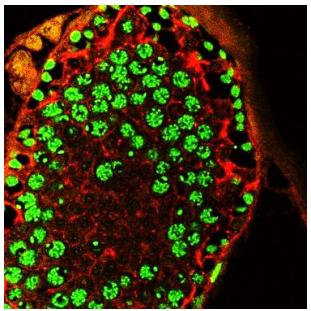
Fibroblasts Marker #1



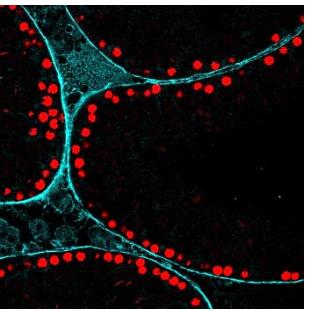
Fibroblasts M#1



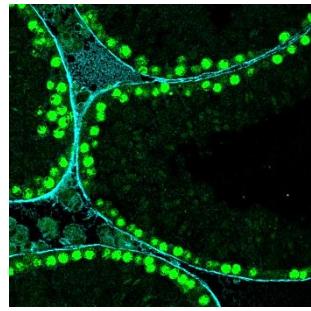
**Proliferation M#2+
Cell-cell adhesion**



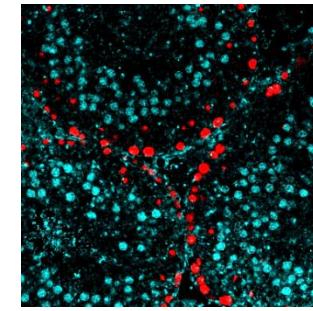
**Germ cells+
ECM Marker #1**



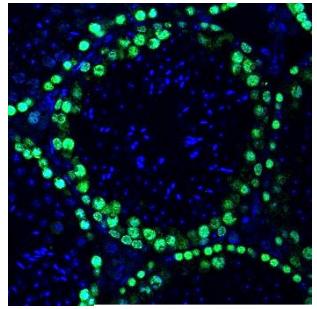
**Proliferation M#2+
DS DNA Damage+
ECM Marker#1**



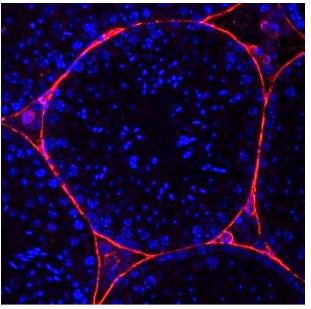
**DS DNA Damage+
ECM Marker#2**



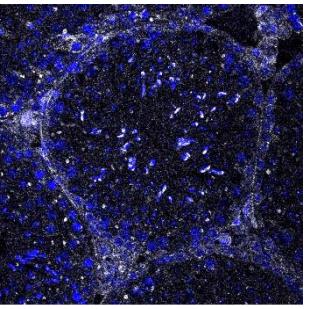
Proliferation M#2



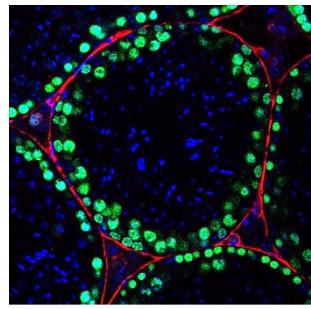
**Neovascularization
Marker**



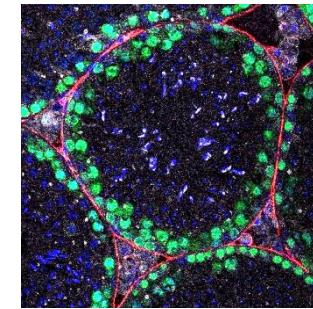
**Mesenchyme/
Epithel**



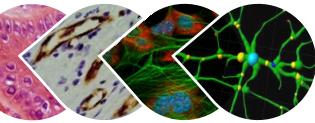
**Proliferation M#2+
Neovascularization**



Merged



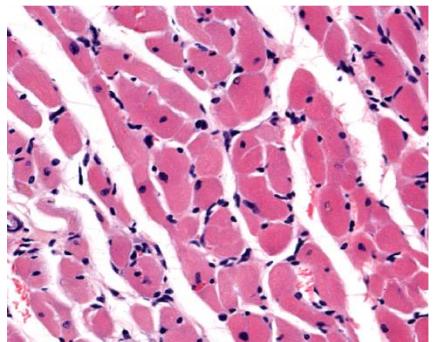
Fluorescence



Histospeck now offers: Muscle IHC services

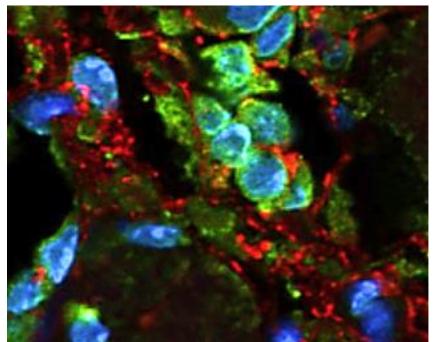
H&E

(Morphology)



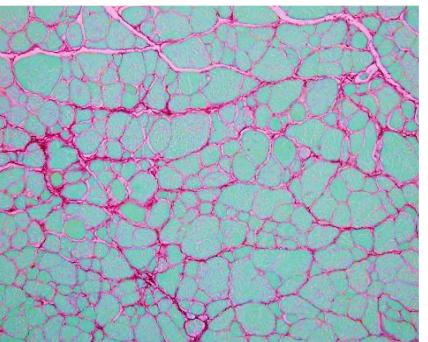
ECM marker#6+ ECM marker#2

IHC-F

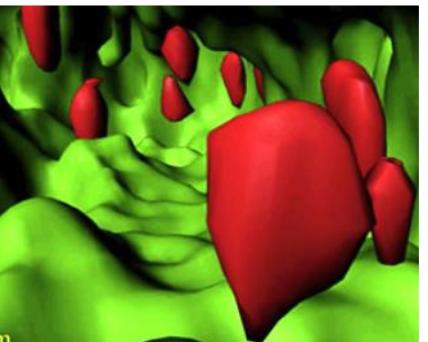


Sirius Red

(Collagen I+III)

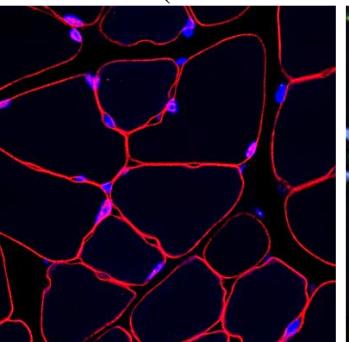


3D Reconstruction



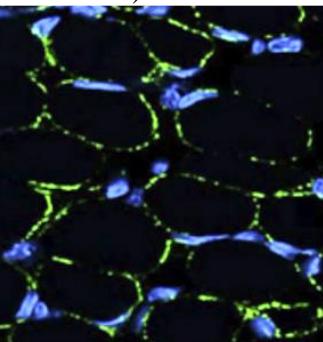
Dystrophin

(Muscle-ECM connection)



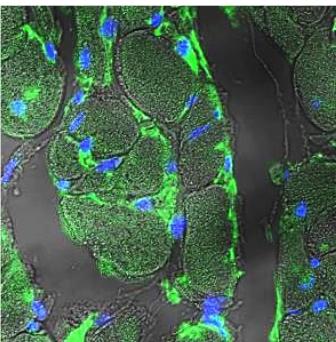
β - Dystroglycan

(Muscle-ECM connection)



Fibroblasts M#1-

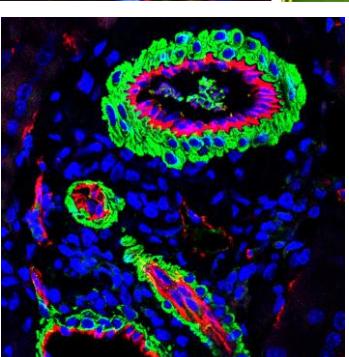
Heart Muscle



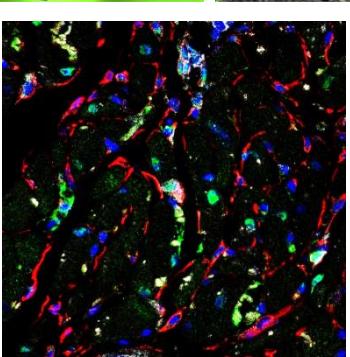
ECM M#1+ Slow

Muscle+ Fast Muscle

Gastrocnemius Muscle
Endothel Marker #1- +
Fibroblasts M#1



Neo-vascularization M.+
Proliferation M#2+
Mesenchyme/Epithel



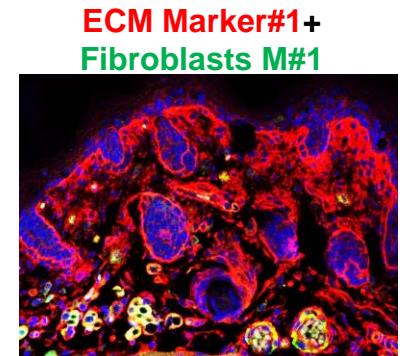
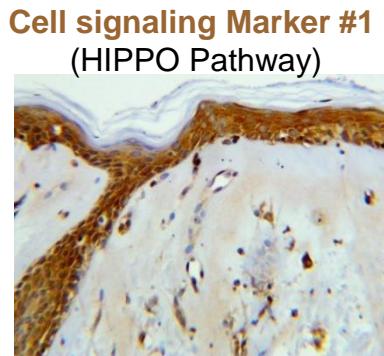
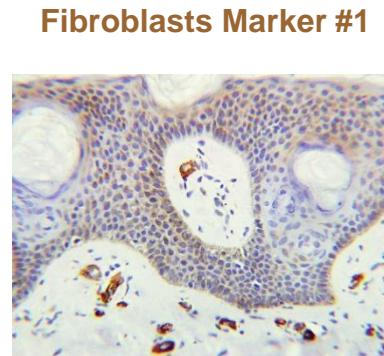
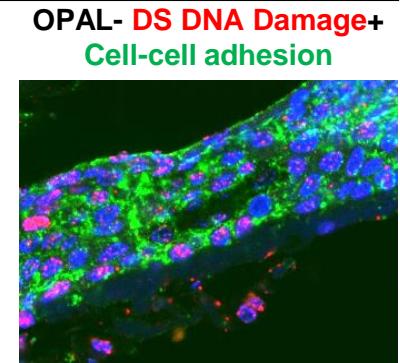
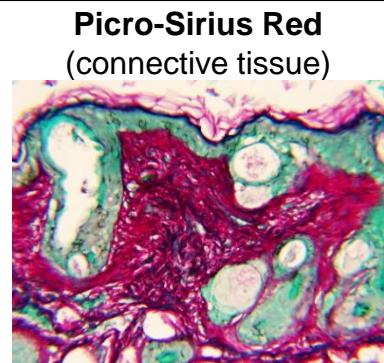
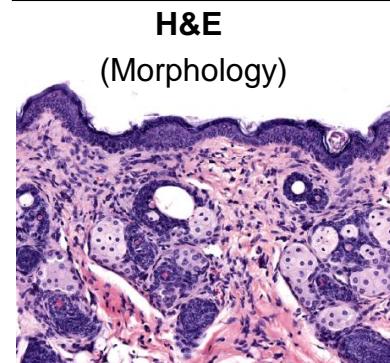
For details: Dr. Itay Spektor

☎ +972-50-4690708

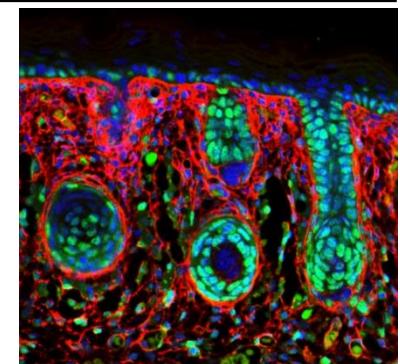
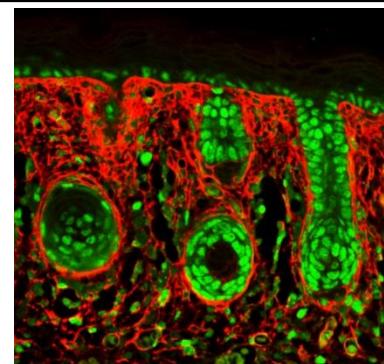
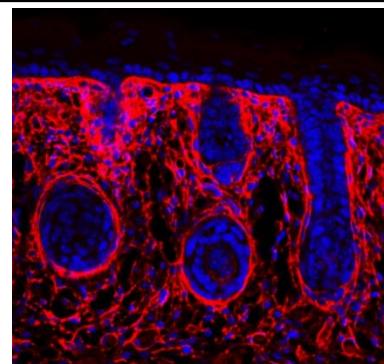
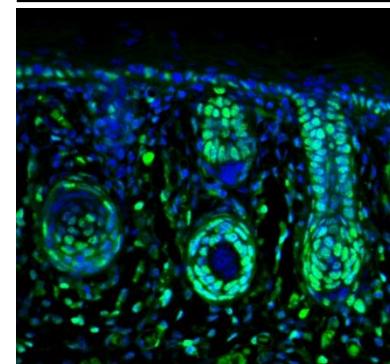
✉ Itay@histospeck.com

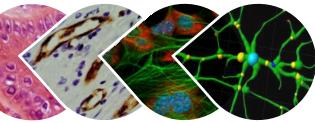
🌐 www.histospeck.com

Histospeck now offers: **Skin IHC services**



ECM Marker#4+ Proliferation Marker #2

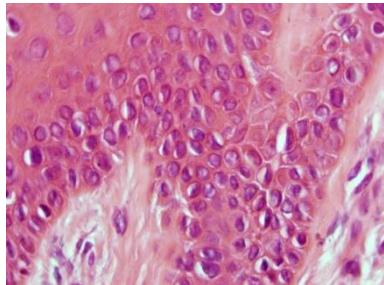




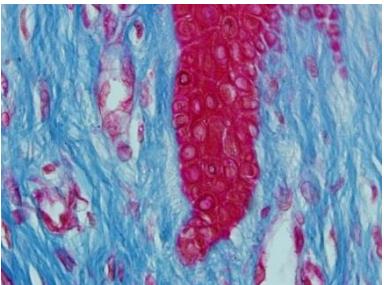
Peripheral Ossifying Fibroma

Histospeck now offers: **Peripheral Ossifying Fibroma IHC services**

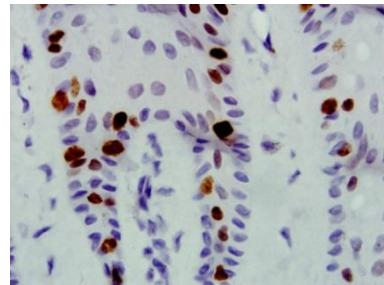
H&E
(Morphology)



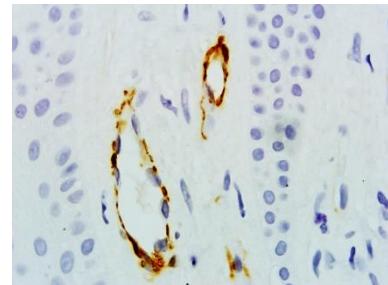
Masson Trichrome
(connective tissue)



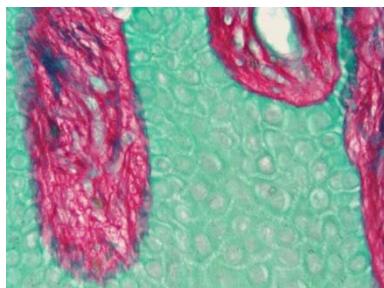
Proliferation Marker #1



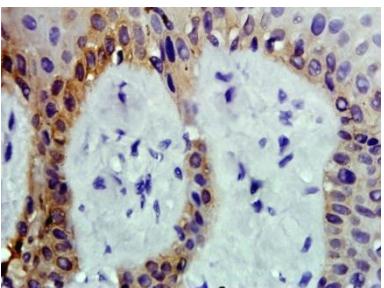
Fibroblasts Marker #1



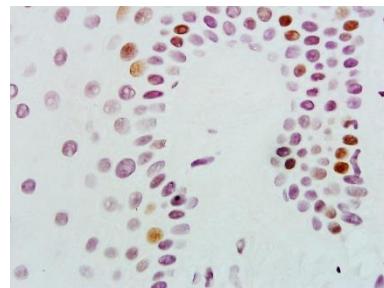
Picro Sirius Red (collagen)



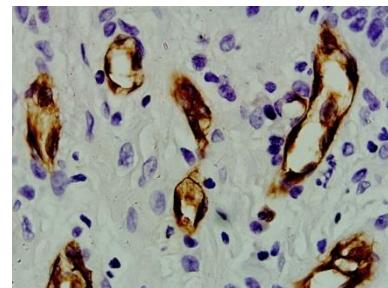
Epithel Marker #1



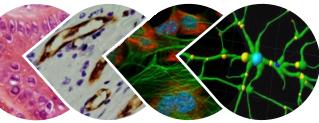
Apoptosis Marker #2



Endothel Marker #2



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Histospeck now offers: **Intestinal Disease IHC services**

Intestinal Disease

