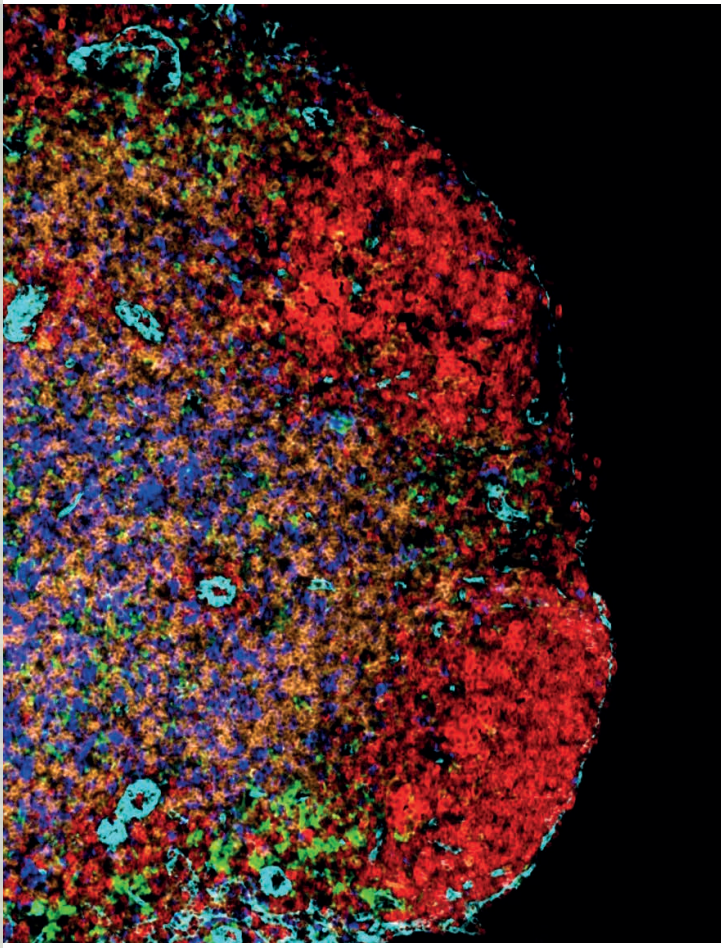
SpectraSplit®7

Patented multiband filters with exceptional separation of 7 fluorochrome classes

KROMNIGON

Produce sharp and clean images without spectral unmixing

SpectraSplit® 7 is patented filter sets for 7-channel multicolor microscopy. Optimized to prevent spillover noise and to maximize the signal strength from seven frequently utilized fluorochrome classes, including Alexa Fluor®, Opal™, and Cy3/Cy5/Cy7 dyes.



SpectraSplit®

www.kromnigon.com

High fluorochrome flexibility
Your choice of fluorochromes; select anyone from each class

Fast imaging
No spectral unmixing needed

Upgrades any microscope
Compatible with most standard and scanning fluorescence microscopes

Crisp and clean images
Less than 0.5% spillover between channels
Very high signal-to-noise ratios

SpectraSplit® 7 maximizes the capacity of your microscope

Bandpass filter sets for the entire spectra

SpectraSplit® 7 are patented filter sets that specifically separates seven of the most commonly used fluorochrome classes in immunohistochemistry. No additional software and no computational spectral unmixing are required. Hence, SpectraSplit® 7 immediately empowers your microscope with seven independent color channels that each generates crystal clear images. Importantly, you do not need to be a fluorochrome expert or microscope guru to produce 7-color images – just stain your samples and visualize with SpectraSplit® 7.

Compatible with a large number of common fluorochromes

Superior separation of seven fluorochrome classes

SpectraSplit® 7 is fully compatible with commonly used fluorochromes, including Alexa Fluor® dyes, traditional dyes like FITC/Cy3/Cy5/Cy7, and many of the Opal™ dyes. This provides a wide range of options for fluorochromes when setting up a 7-color IHC.

No bleed-through between channels

Requires no spectral unmixing or other bleed-trough corrections

The SpectraSplit® 7 filter sets separate the fluorescence signals of seven different fluorochrome classes, with spillover between channels being less than 0.5%. As a result, high-contrast images are generated without the need for spectral unmixing or any other bleed-through corrections. Spectral unmixing techniques can be time-consuming, require single-labeled controls, and increase the risk of over- or under-corrections. In contrast, SpectraSplit® 7 directly blocks bleed-through noise and therefore does not require any post processing.

What you see is what you get.

"We've imaged over 2,500 highly-multiplexed slides with the Spectra Split® 7 filters in the past year and the data in every single sample set is crisp and clean. Our users do a large amount of RNAScope staining utilizing the Opal dye set and it's been a game changer for us to have the SpectraSplit filters that are precisely matched to these dyes. The imaged samples have been a wide range of tissue sections and cultured cells and none of my other microscopes, both filter-based and with spectral detection, match the Opals as well as SpectraSplit® 7."

Christina Baer, Director, SCOPE Imaging Facility,
UMass Chan Medical School, Worcester MA

Examples of fluorochromes compatible with SpectraSplit® 7

Channel	Traditional dyes	ThermoFisher	Biotium	ThermoFisher	Atto-tec	Akoya	Ultivue	Sirigen/BD	Protein expression fluorophores
S-Split Blue (375)	DAPI	Alexa Fluor 405	CF405	Dylight 405		DAPI	DAPI	BV421	Hoecht
S-Split Cyan (435)			CF430		Atto425	Opal p.480		BV480	cCFP
S-Split Green (495)	FITC	Alexa Fluor 488	CF488	DyLight 488	Atto488	Opal 520	Ultivue, FITC		eGFP
S-Split Orange (545)	Cy3/TRITC	Alexa Fluor 546	CF555	DyLight 549	Atto542	Opal 570	Ultivue, Cy3		mOrange/mRFP
S-Split Red (590)	Texas Red	Alexa Fluor 594	CF594	DyLight 594	Atto590	Opal 620			mCherry/mRaspberry /mPlum
S-Split Far-red (650)	Cy5/Cy5.5	Alexa Fluor 647	CF647/680	DyLight 649	Atto647/665	Opal 690	Ultivue, Cy5		miRFP703
S-Split Infra-red (740)	Cy7	Alexa Fluor 750	CF750	DyLight 750	Atto740	Opal p.780	Ultivue, Cy7		

Cy3, Cy5, Cy7 are registered trademarks of GE Healthcare, Alexa Fluor and DyLight dyes are trademarks of Thermo Fisher Scientific, CF dyes are trademarks of Biotium, Atto dyes are trademarks of Atto-tec, Opal dyes are trademarks of Akoya Biosciences, Brilliant Violet dyes are trademarks of Sirigen/BD

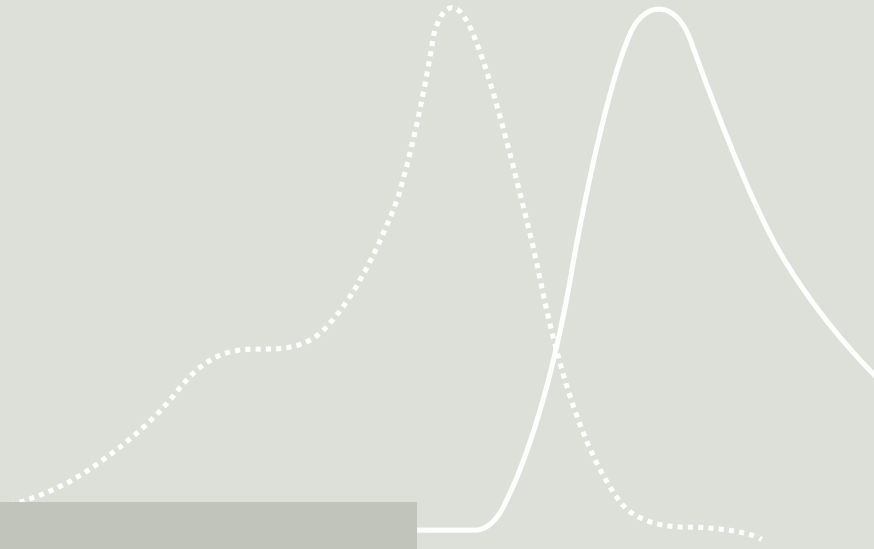
Microscopes and light sources

SpectraSplit® 7 is designed to work with both standard and scanning fluorescence microscopes. It is compatible with various lighting sources including pE-800 and pE-4000 from CoolLED, X-Cite NOVEM from Excelitas, and the new SPECTRA X Light Engine from Lumencor.

Configuration

SpectraSplit® 7 contains four filter sets. Each filter set includes one excitation filter, one emission filter (25 mm in diameter), and one dichroic mirror (25.5 x 36.0 x 1 mm).

Set 1: Triple-band set (375/495/740)
Set 2: Double-band set (435/650)
Set 3: Single-band set (545)
Set 4: Single-band set (590)



"Our company Offspring Biosciences supports project teams in the pharma industry with histology-based contract services. Kromnigons SpectraSplit® filters have allowed us to significantly expand our capability to perform multiplexed immunofluorescence analyses with excellent separation between the fluorophores. We can highly recommend them."

Anders Dahlstrand, CEO and co-founder of Offspring Bioscience

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KROMNIGON
Multiplex IHC made easy

StreptaClick® Color

Antibody Labeling & Staining Kit for Multiplex IHC

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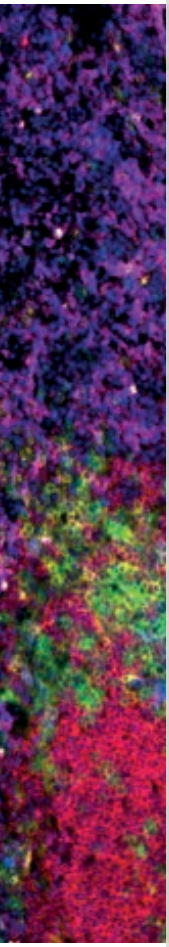
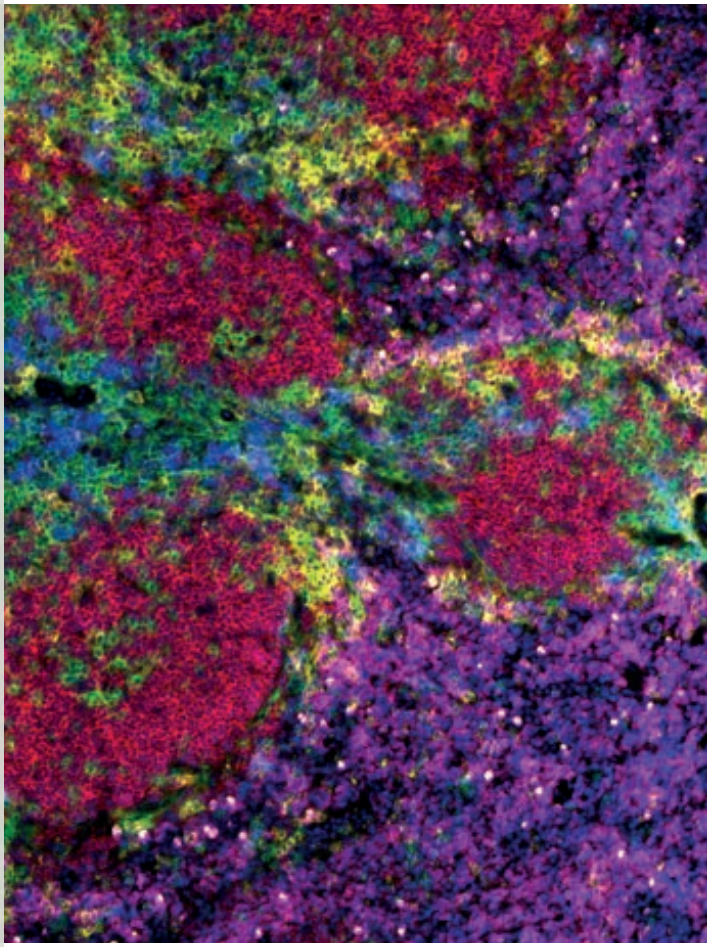


Transforming Your Multiplex IHC Experience

Mix any biotinylated antibody with StreptaClick® carrying the fluorochrome of your choice, and you'll have direct conjugates ready in just minutes. Add all conjugates simultaneously to the slide and run a multiplex IHC—labeling to imaging — within 1 hour.



StreptaClick®

www.kromnigon.com

Unmatched flexibility
Label Abs in ul volumes at any concentration

Ultrafast protocol
Run a multiplex IHC in 1 hour

Multiplex IHC made easy
Effortless study design & optimization

High quality fluorochromes
Fluorochromes chosen for their brightness

StreptaClick®

Alternate antibody-fluorochrome combinations with ease.

StreptaClick®-Color is optimized for ultra-fast multiplex IHC. The characteristics of the patented StreptaClick® reagent enable multistaining in one go, leading to a faster multistaining protocol. The StreptaClick® protocol can be combined with directly conugated antibodies.

Fluorochromes

StreptaClick®-Color offers four distinct fluoro-chromes. The fluorochromes are handpicked to ensure optimal brightness.

StreptaClick® 3 Color Kit
Fluorochromes: Atto™ 542, AZDye™ 488, AZDye™ 594. Cat no. 50031-1

StreptaClick® 4 Color Kit
Fluorochromes: Atto™ 542, AZDye™ 488, AZDye™ 594, AZDye™ 647. Cat no. 50041-1

Each kit contains 500 µl of StreptaClick® antibody labeling reagent per color, which labels 50 µg of biotinylated antibody, sufficient for approximately 50 slides. The kit also includes a biotin block buffer to block any remaining free StreptaClick® when multiplexing.

Name	Absorption max	Emission max
AZDye™ 488 – Green	494 nm	517 nm
Atto™ 542 -Yellow	542 nm	562 nm
AZDye™ 594 – Red	590 nm	617 nm
AZDye™ 647 – Far red	649 nm	671 nm

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Multiplex IHC made easy

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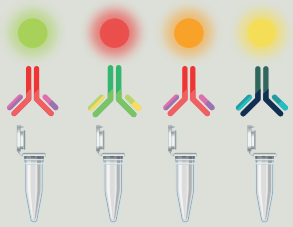
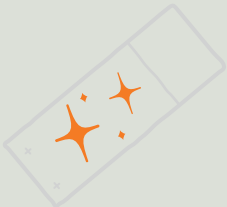
StreptaClick® Color Workflow



Mix each biotinylated antibody with a StreptaClick® color

Mix all the labeled antibodies in one tube



Add the mix to the slide

StreptaClick's micro-volume labeling approach ensures that you only consume what is required for each experiment, minimizing waste and simplifies optimi-zation.

StreptaClick® HRP

Multiplex IHC with tyramide signal amplification (TSA) for frozen and FFPE tissue sections

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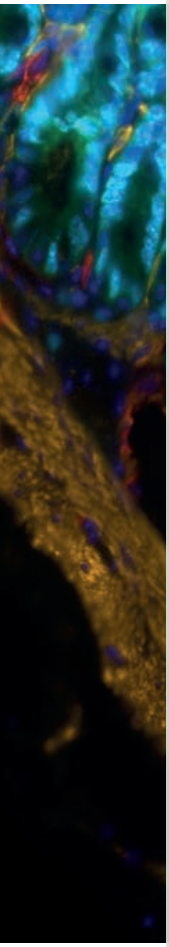
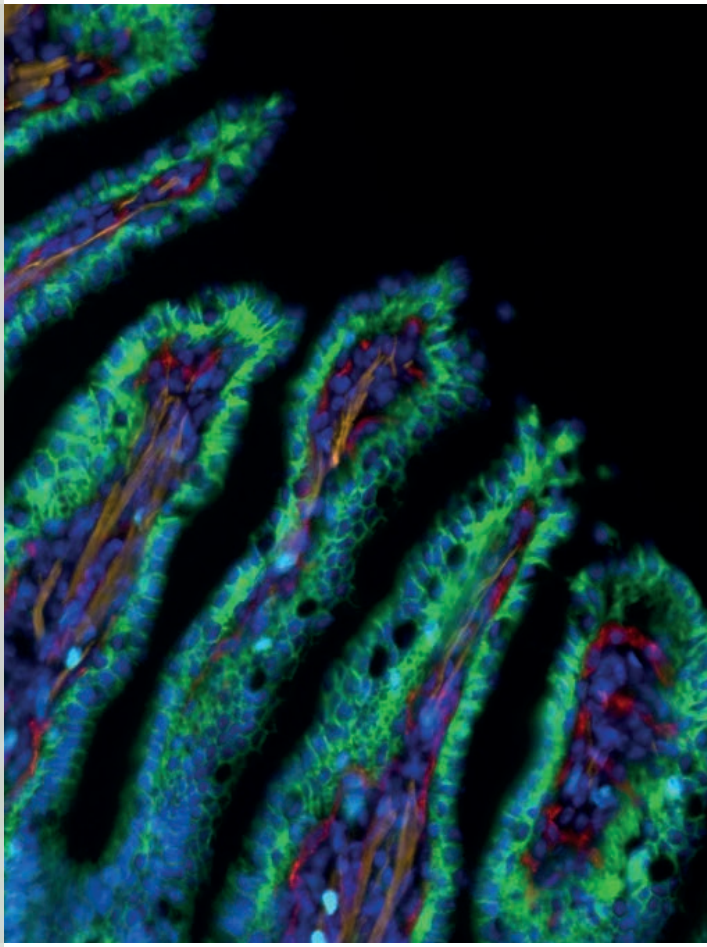


Improve Your TSA Workflow with StreptaClick®

Label biotinylated antibodies with StreptaClick®-HRP and proceed with multiplex tyramide signal amplification, using a unique HRP block buffer between colors.



StreptaClick®

www.kromnigon.com

Unmatched flexibility
Works with any biotinylated antibody

For both FFPE and frozen tissue
Novel HRP block buffer replaces heat treatment

Enhanced signal with TSA
10-50x brighter signal than direct conjugates

Brilliant images
TSA dyes chosen for their brightness

StreptaClick®

Compatible with tissues from all species and biotinylated antibodies from all hosts.

The unique quenching buffer (HRP block buffer) replaces heat treatment. Optimized to preserve morphology and epitopes in frozen tissue sections.

StreptaClick® HRP

StreptaClick® HRP Multiplex IHC Kit
250 reactions. Cat no. 6008181-1

3-color tyramide dye kit, including amplification buffer
250 reactions. Dyes: AZDye™ 488, Cyanine 3, Cyanine 5. Cat no. 60031-1

5-color tyramide dye kit, including amplification bufferer
500 reactions. Dyes: CF®430, AZDye™ 488, Cyanine 3, AZDye™ 594, Cyanine 5. Cat no. 60051-1

Name	Absorption max	Emission max
CF®430	426 nm	498 nm
AZDye™ 488	494 nm	517 nm
Cyanine 3	555 nm	572 nm
AZDye™ 594	590 nm	617 nm
Cyanine 5	648 nm	671 nm

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StreptaClick® HRP
Workflow

Prep: Label each biotinylated antibody with StreptaClick®-HRP.

1. Apply the first antibody to the frozen section or FFPE section.

2. Develop color with TSA reagents.

3. Quench the HRP enzyme with the novel HRP block buffer. Repeat with the next antibody.