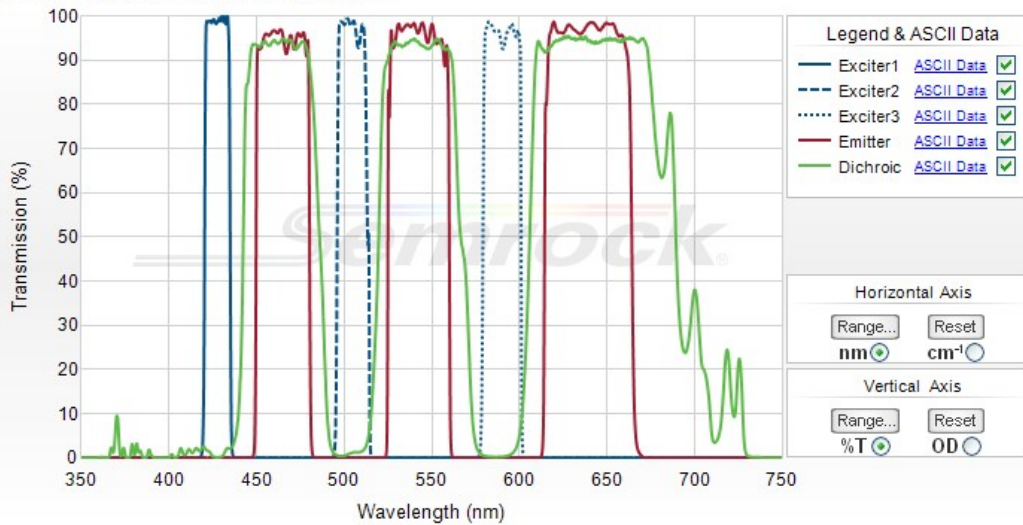


BrightLine® Pinkel filter set, optimized for Cyan & Yellow Fluorescent Proteins & HcRed and other like fluorophores

Part Number: CFP/YFP/HcRed-3X-A-000



Semrock, Inc

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(within US and Canada)



BrightLine® Pinkel filter set, optimized for Cyan & Yellow Fluorescent Proteins & HcRed and other like fluorophores

This 5-filter "Pinkel" set is perfectly optimized for imaging CFP, YFP, and HcRed with high brightness, extremely low crosstalk, and superb signal-to-noise ratio. The set is also ideal for samples triple-labeled with CFP, YFP, and an orange or red dye, like Texas Red. It is comprised of three single-band exciters along with a triple-band beamsplitter and a triple-band emitter, and thus works best with an exciter filter wheel or slider.

Individual filters and filter sets (no cube):

These filters sets contain individual filters. For filter sets already mounted in a holder/cube, scroll down to see complete mounted sets with cubes.

Part Number	Price ¹	Stock Status	
<input checked="" type="checkbox"/> CFP/YFP/HcRed-3X-A-000 (Standard size set, fits most microscopes)	\$1,565	In Stock	
Filter Role	Filter Size	Part Number	Price¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435
<input checked="" type="checkbox"/> CFP/YFP/HcRed-3X-A-L01 (Leica 'Large' set)	\$1,565	Contact Us	
Filter Role	Filter Size	Part Number	Price¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	23.3 mm x 2.0 mm	FF01-464/542/639-23.3-D	\$435
Triple Band Dichroic	22.0 mm x 29.0 mm x 1.1 mm	FF444/521/608-Di01-22x29	\$435
<input checked="" type="checkbox"/> CFP/YFP/HcRed-3X-A-L02 (Leica 'Small' set)	\$1,829	Contact Us	
Filter Role	Filter Size	Part Number	Price¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
<input checked="" type="checkbox"/> CFP/YFP/HcRed-3X-A-000-X32 (Standard size set, fits most microscopes)	\$2,059	Contact Us	
Filter Role	Filter Size	Part Number	Price¹
<input checked="" type="checkbox"/> CFP/YFP/HcRed-3X-A-L01-X32 (Leica 'Large' set)	\$2,059	Contact Us	
Filter Role	Filter Size	Part Number	Price¹
<input checked="" type="checkbox"/> CFP/YFP/HcRed-3X-A-L02-X32 (Leica 'Small' set)	\$2,359	Contact Us	
Filter Role	Filter Size	Part Number	Price¹
\$1,625	Contact Us		
Filter Role	Filter Size	Part Number	Price¹

25 mm threaded ring for Sutter

Single Band Exciter	25 mm threaded ring for Sutter Lambda filter wheel	FF01-427/10-25-STR	\$375
Single Band Exciter	25 mm threaded ring for Sutter Lambda filter wheel	FF01-504/12-25-STR	\$325
Single Band Exciter	25 mm threaded ring for Sutter Lambda filter wheel	FF01-589/15-25-STR	\$375
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435

1) US domestic pricing only. If you are ordering from outside the US, please contact your nearest [regional distributor](#) for the correct list price.

Complete filter sets mounted in microscope holders/cubes:

These sets are delivered already mounted in microscope filter holders, often called 'cubes', ready to be dropped into your microscope.

Nikon Quadfluor for microscopes: E200, E400, E600, E800, E1000, TS100, TS100F, TE200, TE300, ME600L, L150A, and some Labophot, Optiphot, and Diaphot series

CFP/YFP/HcRed-3X-A-NQF (set mounted in cube) \$1,960 In Stock

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435
Quadfluor cube		NQF	\$395

CFP/YFP/HcRed-3X-A-NQF-X32 (set mounted in cube) \$2,444 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
Quadfluor cube		NQF	\$395

Nikon TE 2000 for microscopes: TE 2000, 50i, 55i, 80i, 90i, Eclipse Ti, Ni, and Ci series, and any using the Epi-fluor Illuminator

CFP/YFP/HcRed-3X-A-NTE (set mounted in cube) \$1,960 In Stock

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435
TE 2000 cube		NTE	\$395

CFP/YFP/HcRed-3X-A-NTE-X32 (set mounted in cube) \$2,444 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
TE 2000 cube		NTE	\$395

Olympus U-MF2 for microscopes: AX70, BX, BX41, BX50, BX51, BX60, BX61, BX50/51WI, BX60/61WI, IX50, IX51, IX70, IX71, IX81

CFP/YFP/HcRed-3X-A-OMF (set mounted in cube) \$2,000 In Stock

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435
U-MF2 cube		OMF	\$435

CFP/YFP/HcRed-3X-A-OMF-X32 (set mounted in cube) \$2,479 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
U-MF2 cube		OMF	\$435

Olympus U-FF for microscopes: BX53, BX63

CFP/YFP/HcRed-3X-A-OFF (set mounted in cube) \$2,000 In Stock

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435
U-FF cube		OFF	\$435

CFP/YFP/HcRed-3X-A-OFF-X32 (set mounted in cube) \$2,479 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
U-FF cube		OFF	\$435

Zeiss FL Cube EC P+C for microscopes: Axio Imager, AxioStar Plus, Axioskop 40, Axioskop 2 (post-2001), AxioPlan 2i, AxioPlan 2ie, Axiovert 200, Axiovert 40, Axio Observer, Axio Examiner and Axio Scope A1

CFP/YFP/HcRed-3X-A-ZHE (set mounted in cube) \$1,840 In Stock

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435
FL Cube EC P+C cube		ZHE	\$275

CFP/YFP/HcRed-3X-A-ZHE-X32 (set mounted in cube) \$2,384 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
FL Cube EC P+C cube		ZHE	\$275

Leica DM-K for microscopes: DM-2000, DM-2500, DM-3000, DMI3000 B, DM-4000, DMI4000 B, DM-5000, DM-5500, and DM-6000, DMI6000 B

CFP/YFP/HcRed-3X-A-LDMK (set mounted in cube) \$1,915 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	23.3 mm x 2.0 mm	FF01-464/542/639-23.3-D	\$435
Triple Band Dichroic	22.0 mm x 29.0 mm x 1.1 mm	FF444/521/608-Di01-22x29	\$435
DM-K cube		LDMK	\$350

CFP/YFP/HcRed-3X-A-LDMK-X32 (set mounted in cube) \$2,479 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
DM-K cube		LDMK	\$350

Leica DMI8 (P-Cube) for microscopes: DMI8

CFP/YFP/HcRed-3X-A-LDMP (set mounted in cube) \$2,000 In Stock

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF01-427/10-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-504/12-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-589/15-25	\$355
Triple Band Emitter	25 mm x 3.5 mm	FF01-464/542/639-25	\$435
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF444/521/608-Di01-25x36	\$435
DMI8 (P-Cube) cube		LDMP	\$435

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Optical Specifications

Specification	Value
Blocking	BrightLine filters have blocking far exceeding OD 6 as needed to ensure a black background, even when using modern low-noise CCD cameras. The blocking is optimized for microscopy applications using our exclusive SpecMaker™ fluorescence filter design.

General Filter Specifications

Specification	Value
Microscope Compatibility	BrightLine filters are available to fit Leica, Nikon, Olympus, Zeiss, and Apero microscopes.
Optical Damage Rating	Testing has proven to show no signs of degradation when exposed to at least 6.0 W of power from an unfiltered xenon arc lamp over a 25 mm diameter (corresponding to 1.2 W/cm ²) for over 500 hours.

Physical Filter Specifications

Specification	Value
Scratch-Dig	60-40
Exciter/Emitter Orientation	Arrow on ring indicates preferred direction of propagation of light.
Dichroic Orientation	"Reflective coating side" should face toward light source and sample.

Fluorophore Compatibility

★★★★ indicates this filter set was specifically optimized for this fluorophore.

★★★ indicates an excellent spectral match between fluorophore and filter set that should result in nearly ideal performance in most situations.

★★ indicates a good match between fluorophore and filter set, with actual performance dependent on other experimental conditions.

Cyan

Fluorophore	Compatibility
AmCyan1	★★★
Aqua 431	★★
ATTO 425	★★
BD Horizon V450	★★
BD Horizon V500	★★
Cerulean	★★★
CFP (ECFP)	★★★★
DEAC	★★★
DY-415	★★★
ECFP	★★★
LIVE-DEAD Fixable Violet Dead Cell Stain	★★
mBBr+GSH	★★
Pacific Blue™	★★
POPO-1	★★★
PO-PRO-1	★★★
SpectrumAqua	★★
SYTOX Blue	★★★★
TagBFP	★★
TagCFP	★★

★★★★ indicates this filter set was specifically optimized for this fluorophore.

★★★ indicates an excellent spectral match between fluorophore and filter set that should result in nearly ideal performance in most situations.

★★ indicates a good match between fluorophore and filter set, with actual performance dependent on other experimental conditions.

Yellow

Fluorophore	Compatibility
5-carboxy-2,7-dichlorofluorescein	★★★
5-FAM (5-carboxyfluorescein)	★★
6-carboxyrhodamine 6G	★★
6-JOE	★★
Acridine Orange (+DNA)	★★★
Alexa Fluor® 488	★★
Alexa Fluor® 500	★★★
Alexa Fluor® 514	★★
Alexa Fluor® 532	★★
ATTO 488	★★★
ATTO 495	★★★
ATTO 520	★★
ATTO 532	★★
BCECF (pH 5.5)	★★
BCECF (pH 9.0)	★★★
BODIPY R6G	★★
Calcein	★★
Calcium Green-1	★★★★
Cy3.5™	★★★
CyQUANT GR-DNA	★★★
DAF-FM-NO	★★
Dronpa	★★
DY-505-Phalloidin	★★★
DyLight 488	★★
Eosin	★★
FITC (Fluorescein)	★★

FIAsH-CCPFCC	☆☆☆☆
Fluo-3	☆☆☆☆☆
Fluo-4	☆☆
Fluorescein dextran	☆☆☆
Fluorescein-pH 8.0	☆☆
Fluoro-Emerald	☆☆☆
FluoSpheres Yellow-Green fluorescent microspheres	☆☆
FM 1-43	☆☆
Gold 525	☆☆
Green 496	☆☆
Green 500	☆☆☆
HCS LipidTOX Green phospholipidosis	☆☆☆
HiLyte Fluor™ 488	☆☆☆
JO-JO-1, JO-PRO-1	☆☆
LIVE-DEAD Fixable Green Dead Cell Stain	☆☆☆
LysoTracker Yellow HCK-123	☆☆
Magnesium Green	☆☆☆
mHoneyDew	☆☆☆
MitoTracker™ Green	☆☆
mWasabi	☆☆
NeuroTrace 500/525 Green Fluorescent Nissl Stain	☆☆☆
Oregon Green™ 488	☆☆☆
Oregon Green™ 514	☆☆☆
PicoGreen	☆☆☆
Qdot® 525 Nanocrystals	☆☆☆
Qdot® 545 Nanocrystals	☆☆
Rhodamine 110	☆☆
Rhodamine 123	☆☆☆☆☆
Rhodamine Green	☆☆☆
Rhodol Green	☆☆☆
Sodium Green	☆☆☆
SpectrumGreen	☆☆☆
SYBR Gold nucleic acid gel stain-DNA	☆☆☆
SYBR Green I nucleic acid gel stain-DNA	☆☆☆
SYBR Safe DNA gel stain-DNA	☆☆☆
SYTO 11	☆☆☆
SYTO 16	☆☆
SYTO RNASelect geen fluorescent cell stain	☆☆☆
SYTOX Green-DNA	☆☆☆
TO-PRO-1	☆☆☆
TOTO-1	☆☆☆
TurboYFP	☆☆
Venus	☆☆☆
VIC	☆☆
Vybrant DyeCycle Green	☆☆☆
Vybrant DyeCycle Orange	☆☆
YFP (yellow GFP)	☆☆☆☆☆
YO-PRO-1	☆☆
YOYO-1	☆☆
ZsYellow1	☆☆

☆☆☆☆☆ indicates this filter set was specifically optimized for this fluorophore.

☆☆☆☆ indicates an excellent spectral match between fluorophore and filter set that should result in nearly ideal performance in most situations.

☆☆ indicates a good match between fluorophore and filter set, with actual performance dependent on other experimental conditions.

Red	
Fluorophore	Compatibility
2-dodecylresorufin-lipid	☆☆
Fluorescein (FL-103)	☆☆

5-carboxynaphthofluorescein (pH 10)	☆☆
5-ROX (carboxy-X-rhodamine)	☆☆
7-AAD	☆☆
Alexa Fluor® 568	☆☆
Alexa Fluor® 594	☆☆☆☆
APC	☆☆
APC (Allophycocyanin)	☆☆
ATTO 590	☆☆☆
ATTO 594	☆☆☆
ATTO 610	☆☆
BOBO™-1	☆☆☆
BOBO™-3	☆☆
BODIPY 630/650-X	☆☆
BODIPY TR-X phalloidin	☆☆☆
Calcium Crimson	☆☆
Carboxynaphthofluorescein	☆☆
CellTrace BODIPY TR methyl ester	☆☆☆
CellTracker Red CMTPX	☆☆☆
DDAO	☆☆☆
DyLight 594	☆☆☆
DyLight 633	☆☆
FluoSpheres Crimson fluorescent microspheres	☆☆
FluoSpheres Red fluorescent microspheres	☆☆
HcRed1	☆☆☆
HCS CellMask Red cytoplasmic	☆☆
HCS LipidTOX Deep Red neutral lipid stain	☆☆
HCS LipidTOX Red neutral lipid stain	☆☆☆
HCS LipidTOX Red phospholipidosis	☆☆
HiLyte Fluor™ 594	☆☆☆
Hypericin	☆☆
KFP-Red	☆☆
LIVE-DEAD Fixable Red Dead Cell Stain	☆☆☆
mCherry	☆☆
MitoTracker™ Red	☆☆
mKate2	☆☆☆
mPlum	☆☆☆
mRFP1	☆☆
mStrawberry	☆☆
Nile blue-EtOH	☆☆
Nile red-phospholipid	☆☆
Qdot® 625 Nanocrystals	☆☆
Qdot® 655 Nanocrystals	☆☆
ReAsH-CCPGCC	☆☆
Red 580	☆☆
SNARF (carboxy) 514 Excitation pH 9	☆☆☆
SNARF-1 488nm (pH 9.0)	☆☆☆
SNARF-1 514nm (pH 9.0)	☆☆☆
SpectrumRed	☆☆☆
SYTO 17	☆☆
SYTO 59	☆☆
SYTO 61	☆☆
Texas Red dextran	☆☆☆
Texas Red DHPE	☆☆
Texas Red®	☆☆☆
TOTO-3	☆☆
TurboFP635(Katushka)	☆☆☆
X-Rhod-1 Indicator	☆☆
YO-PRO-3	☆☆
YOYO-3	☆☆

Technical Information

Topic	Description
High Performance Microscopy	An overview of high performance microscopy, including solutions from Semrock and additional learning resources.
Spectral Modeling in Fluorescence Microscopy	Discusses various sources of noise in fluorescence microscopy and how to maximize signal-to-noise ratios using software, sample preparation and optical filter selection
New Optical Filters Improve High-Speed Multicolor Fluorescence Imaging	Turan Erdogan, PhD, Semrock Inc., BioPhotonics, March 2006 Compares benefits and drawbacks of full multiband, pinkel and sedat filter sets for high-speed multicolor fluorescence imaging
Multiband Filter Set Terminology	Compares benefits and drawbacks of full multiband, pinkel and sedat filter sets
Orientation of Filters in a Microscope	A guide to properly orienting Semrock filters based on the filter markings.
Introduction to Fluorescence Filters	Shows how optical filters are used in a traditional fluorescence microscope and describes important factors to consider when choosing optical filters.
Filter Reliability	Compares the performance and reliability of hard coated filters to traditional soft-coated filters and provides information about the testing standards for Semrock filters
Cube Assembly Instructions	PDF and video instruction for installing filters into popular filter cubes
Cleaning Optical Filters	Instructions for cleaning hard coated optical filters