



Semrock, Inc

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(within US and Canada)

BrightLine® Sedat filter set, optimized for CFP, YFP, & mCherry and other like fluorophores, illuminated with LED-based light engines

Semrock's LED-based light engine filter sets are designed to use common excitation filters between single-band and corresponding multiband configurations to simplify interchangeability when installing the excitation filters into the light engine. This not only provides seamless transition between using single-band and multiband filter sets but also provides significant cost savings.

This 7-filter "Sedat" quad-band set is designed for high-speed, sequential imaging of CFP, YFP, and mCherry (and other key fluorophores – see complete list above). This set has been designed to deliver significant fluorescence signal improvements for LED-based light engines compared with traditional sets designed for standard broadband light sources such as mercury or xenon arc lamps. The complete set is comprised of a triple-band beamsplitter with three single-band emitters intended to be mounted in filter wheels and three single-band exciters which can be installed into the LED light engine or mounted in filter wheels.

Interested in learning how this filter set will perform with your light source? Try Semrock's [SearchLight](#) plotting & calculation tool.

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"/> LED-CFP/YFP/mCherry-3X3M-A-000 (Standard size set, fits most microscopes)	\$2,075	In Stock
<input checked="" type="checkbox"/> LED-CFP/YFP/mCherry-3X3M-A-L01 (Leica 'Large' set)	\$2,075	Contact Us

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-Di01-25x36	\$435

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	22.0 mm x 29.0 mm x 1.1 mm	FF459/526/596-Di01-22x29	\$435

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm threaded ring for Sutter Lambda filter wheel	FF02-438/24-25-STR	\$325
Single Band Exciter	25 mm threaded ring for Sutter Lambda filter wheel	FF01-509/22-25-STR	\$375

Single Band Exciter	25 mm threaded ring for Sutter Lambda filter wheel	FF01-578/21-25-STR	\$375
Single Band Emitter	25 mm threaded ring for Sutter Lambda filter wheel	FF01-482/25-25-STR	\$325
Single Band Emitter	25 mm threaded ring for Sutter Lambda filter wheel	FF01-544/24-25-STR	\$375
Single Band Emitter	25 mm threaded ring for Sutter Lambda filter wheel	FF02-641/75-25-STR	\$325
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-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

LED-CFP/YFP/mCherry-3X3M-A-NQF (set mounted in cube) \$2,470 [Contact Us](#)

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-Di01-25x36	\$435
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

LED-CFP/YFP/mCherry-3X3M-A-NTE (set mounted in cube) \$2,470 [In Stock](#)

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-Di01-25x36	\$435
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

LED-CFP/YFP/mCherry-3X3M-A-OMF (set mounted in cube) \$2,510 [In Stock](#)

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-Di01-25x36	\$435
U-MF2 cube		OMF	\$435

Olympus U-FF for microscopes: BX53, BX63

LED-CFP/YFP/mCherry-3X3M-A-OFF (set mounted in cube) \$2,510 [In Stock](#)

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-Di01-25x36	\$435
U-FF cube		OFF	\$435

LED-CFP/YFP/mCherry-3X3M-A-ZHE (set mounted in cube) \$2,350 In Stock

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-Di01-25x36	\$435
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

LED-CFP/YFP/mCherry-3X3M-A-LDMK (set mounted in cube) \$2,425 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	22.0 mm x 29.0 mm x 1.1 mm	FF459/526/596-Di01-22x29	\$435
DM-K cube		LDMK	\$350

Leica DMI8 (P-Cube) for microscopes: DMI8

LED-CFP/YFP/mCherry-3X3M-A-LDMP (set mounted in cube) \$2,510 Contact Us

Filter Role	Filter Size	Part Number	Price ¹
Single Band Exciter	25 mm x 5.0 mm	FF02-438/24-25	\$305
Single Band Exciter	25 mm x 5.0 mm	FF01-509/22-25	\$355
Single Band Exciter	25 mm x 5.0 mm	FF01-578/21-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF01-482/25-25	\$305
Single Band Emitter	25 mm x 3.5 mm	FF01-544/24-25	\$355
Single Band Emitter	25 mm x 3.5 mm	FF02-641/75-25	\$305
Triple Band Dichroic	25.2 mm x 35.6 mm x 1.1 mm	FF459/526/596-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, and Zeiss 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
Acridine Yellow	☆☆
Aqua 431	☆☆☆☆
ATTO 425	☆☆☆☆
ATTO 465	☆☆
BD Horizon V500	☆☆
BOBO™-1	☆☆☆
BV480 - BD Horizon Brilliant™ Violet 480	☆☆☆☆
Cerulean	☆☆☆☆
CFP (ECFP)	☆☆☆☆
DY-415	☆☆☆
ECFP	☆☆☆☆
mBBR+GSH	☆☆
mTFP1	☆☆
POPO-1	☆☆☆☆
PO-PRO-1	☆☆
SpectrumAqua	☆☆☆☆
SYTO 45	☆☆☆
SYTOX Blue	☆☆☆☆
TagCFP	☆☆☆☆

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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	☆☆
BODIPY R6G	☆☆☆
Calcein	☆☆
Calcium Green-1	☆☆☆☆
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 Orange fluorescent microspheres	☆☆

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	☆☆☆☆
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 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)	☆☆☆☆
ZsYellow1	☆☆☆

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Red

Fluorophore	Compatibility
2-dodecylresorufin-lipid	☆☆
5-carboxynaphthofluorescein (pH 10)	☆☆☆☆
5-ROX (carboxy-X-rhodamine)	☆☆☆☆
7-AAD	☆☆
Alexa Fluor® 568	☆☆☆☆
Alexa Fluor® 594	☆☆☆☆
Alexa Fluor® 660	☆☆
APC (Allophycocyanin)	☆☆
AsRed 2	☆☆☆☆
ATTO 565	☆☆
ATTO 590	☆☆☆☆
ATTO 594	☆☆☆☆
ATTO 610	☆☆

BOBO™-3	☆☆☆☆
BODIPY TR-X phalloidin	☆☆☆☆
Calcium Crimson	☆☆☆☆
Carboxynaphthofluorescein	☆☆☆☆
CellTrace BODIPY TR methyl ester	☆☆☆☆
CellTracker Red CMTPX	☆☆☆☆
Cy3.5™	☆☆
DDAO	☆☆
DY-590	☆☆☆☆
DY-630	☆☆
DyLight 594	☆☆☆☆
FluoSpheres Crimson fluorescent microspheres	☆☆
FluoSpheres Red fluorescent microspheres	☆☆☆☆
FM 4-64	☆☆
HcRed1	☆☆☆☆
HCS LipidTOX Deep Red neutral lipid stain	☆☆
HCS LipidTOX Red neutral lipid stain	☆☆☆☆
HCS LipidTOX Red phospholipidosis	☆☆☆☆
HiLyte Fluor™ 594	☆☆☆☆
KFP-Red	☆☆☆☆
LDS 751	☆☆☆☆
LIVE-DEAD Fixable Red Dead Cell Stain	☆☆☆☆
LysoTracker Red	☆☆☆☆
mApple	☆☆☆☆
mCherry	☆☆☆☆
MitoTracker™ Red	☆☆☆☆
mPlum	☆☆☆☆
mRFP1	☆☆☆☆
mRuby	☆☆
mStrawberry	☆☆☆☆
Nile blue-EtOH	☆☆
Nile red-phospholipid	☆☆☆☆
PerCP	☆☆
Propidium Iodide (PI)	☆☆☆☆
Qdot® 605 Nanocrystals	☆☆
Qdot® 625 Nanocrystals	☆☆
Qdot® 655 Nanocrystals	☆☆
Qdot® 705 Nanocrystals	☆☆
Qdot® 800 Nanocrystals	☆☆
ReAsH-CCPGCC	☆☆☆☆
Red 580	☆☆☆☆
Rhodamine Red-X	☆☆
SNARF (carboxy) 514 Excitation pH 9	☆☆☆☆
SNARF-1 488nm (ph 9.0)	☆☆☆☆
SNARF-1 514nm (ph 9.0)	☆☆☆☆
SpectrumRed	☆☆☆☆
Sulforhodamine 101-EtOH	☆☆
SYTO 17	☆☆
SYTO 61	☆☆
Texas Red dextran	☆☆☆☆
Texas Red DHPE	☆☆☆☆
Texas Red-X®	☆☆☆☆
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