# 2011/2012

Catalog of Filter Sets for Fluorescence Microscopy



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## *O* FILTER SET ORDERING GUIDE

This price list provides information about the filter sets Chroma Technology has created for the multitude of fluorochromes that are typically used in epi-fluorescence microscopy. We are aware that there are applications which require filter combinations that are not listed. Often we can create such sets out of the large collection of special-order filters and dichroic beamsplitters that we maintain in inventory. Occasionally we have to manufacture newly designed filters and/or mirrors. We understand the limitations of the research budget and in either situation we try to keep prices within reasonable limits.

#### Please contact us for help in creating filter combinations that you do not find in the catalog.

Additionally, Chroma manufactures filters for a variety of instruments including gene chip readers, high-throughput systems, plate readers, flow cytometers, confocal and multi-photon microscopes, Raman spectroscopy and single-molecule microscopy. Often the manufacturers of these instruments provide specifications for the filters that they recommend. Sometimes you may wish to order filters that are different from their recommendations and sometimes the manufacturers of bioassays have their own recommendations.

Please contact us for custom sets and recommended filter sets for standard bioassays.

#### **HOW TO ORDER FILTERS**

Answers to the following questions are extremely helpful when discussing the appropriate filters or filter sets for your use:

- 1. Which fluorochrome(s) is (are) being used?
- 2. What is the wavelength range of excitation and emission for those fluorochromes with which we are not familiar?
- 3. What is the make and model of the microscope or instrument being used?
- 4. What is the size of the excitation and/or emission filters if a filter wheel is being used in either the excitation or emission path?
- 5. Does the filter need to be image quality or not? This is particularly important for absorption-type emission filters.
- 6. What is the maximum thickness possible in the filter mount to be used?
- 7. What type of detector is being used (e.g. PMT, CCD, film)?
- 8. What are the specific reflection and transmission requirements for the dichroic beamsplitter?

Dichroic beamsplitters are designed with various spectral profiles. No dichroic beamsplitter reflects all wavelengths short of the cut-on wavelengths, nor can it transmit all wavelengths beyond that point. Being as specific as possible will increase your chances of getting the beamsplitter that you require and will diminish the possibility of paying too much for a beamsplitter that is more than you require. It is best if we know the excitation and emission filters being used. This information is particularly important when ordering a dichroic beamsplitter in the absence of any other filters.

#### **FILTER PRICING**

The pricing in this catalog is for standard size filters for typical fluorescence microscopes including all excitation and emission filters 25 mm or smaller.

Please contact us for pricing on larger size filters and appropriate mounting hardware.

## 

**Excitation filter D480/30x**—The center wavelength is at 480 nm; full bandwidth is 30 nm [ $=\pm15$ ]. In some cases when the bandwidth is not specified, the letter "x" is used to define the filter as an excitation filter. This is generally used for narrow band UV excitation filters, e.g. D340x.

**Dichroic beamsplitter 505DCLP**—The cut-on wavelength (50% transmission point) is approximately 505 nm for this longpass dichroic design. Dichroic mirrors may be named for the 50% point, but the actual reflection and transmission wavelengths are what really define the mirror. Therefore, a mirror that is called a 505DCLP may vary somewhat in the 50% transmission point. Feel confident that we will design the mirrors, regardless of name, to reflect and transmit the necessary bands. It would be much more accurate to name the mirrors for the reflection/ transmission regions, but this is very cumbersome and we have not figured out the best way to accomplish this just yet.

**Emission filter D535/40m**—The center wavelength is at 535 nm; full bandwidth is 40 nm [ $= \pm 20$ ].

**LP**—longpass filter, which transmits wavelengths longer than the cut-on and blocks shorter wavelengths

**SP**—shortpass filter, which transmits wavelengths shorter than the cut-on and blocks longer wavelengths

**BP**—bandpass

DCLP—dichroic longpass

DCXR—dichroic longpass, extended reflection

**DCXRU**—dichroic longpass, extended reflection including the UV

 $\ensuremath{\text{PC}}\xspace$  —polychroic beamsplitter, reflects and transmits more than two bands of light

**GG**—Green Glass – longpass absorption glass from Schott Glassworks with cut-on wavelengths in the violet and blue-green regions

**0G**—Orange Glass – longpass absorption glass from Schott Glassworks with cut-on wavelengths in the green, yellow and orange regions

**EX**—excitation filter

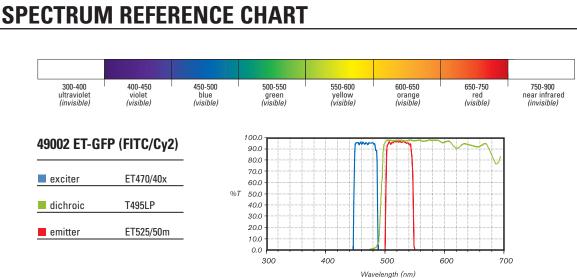
**BS**—beamsplitter

EM—emission filter

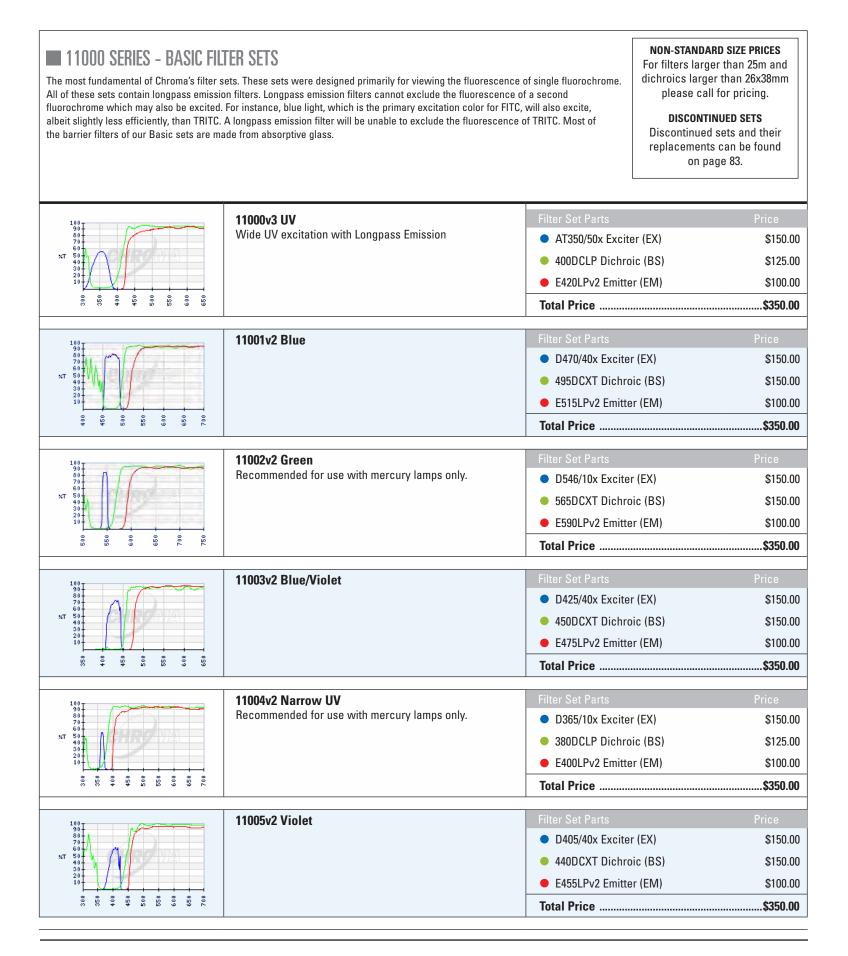
ET-indicates sputter coated filter or set

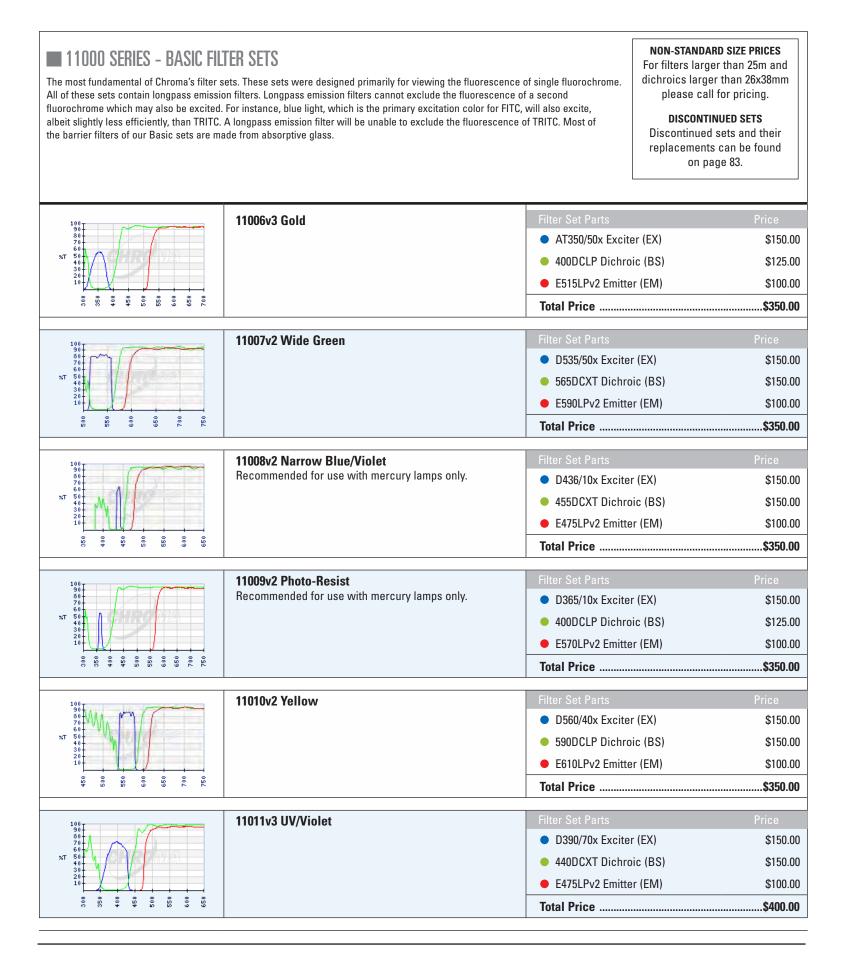
**SPR**—Sub-pixel registered – these sets have been sub-pixel registered to provide the best possible image results and are sold only as complete sets.

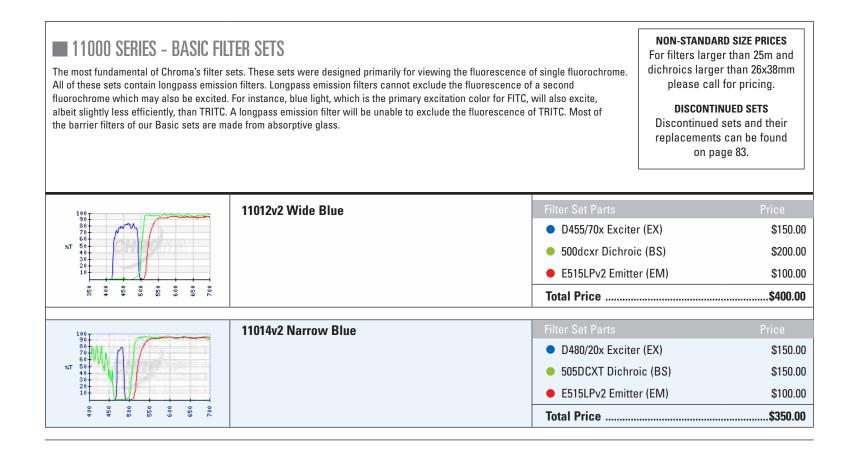
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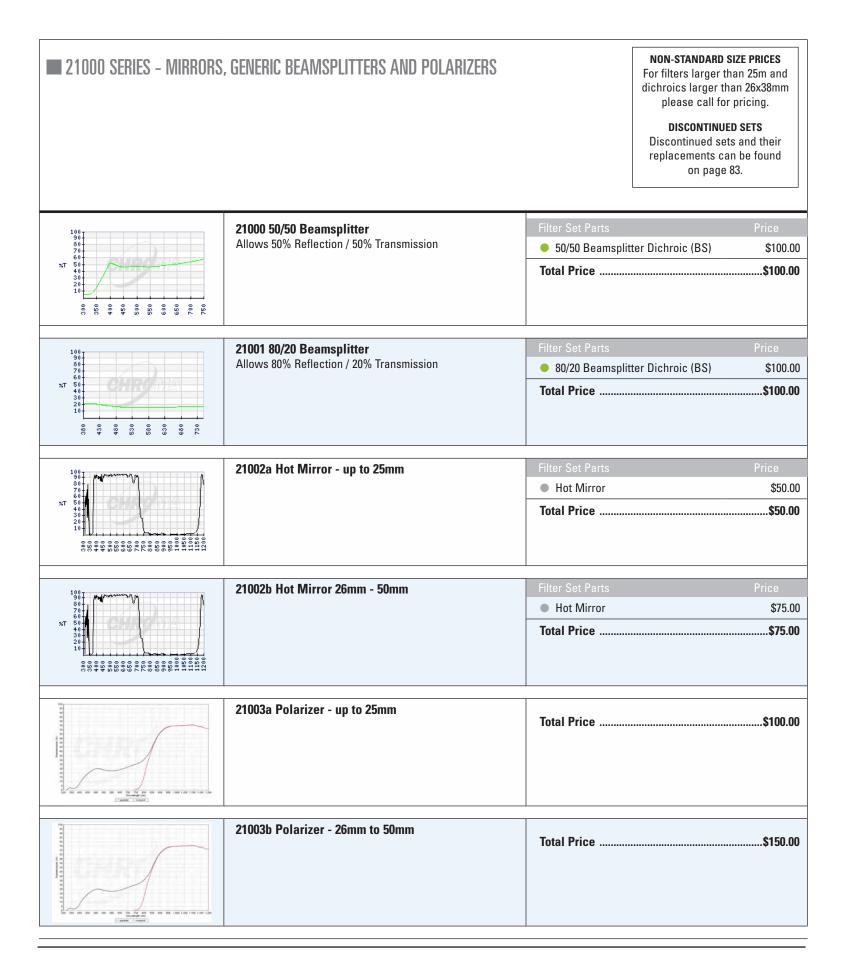


The list on the left provides the item number of the filter set along with its component parts and its spectral characteristics. The graph on the right shows the spectral trace of this filter set with each component shown in a different color. These spectral traces can be found on our web site, www.chroma.com.

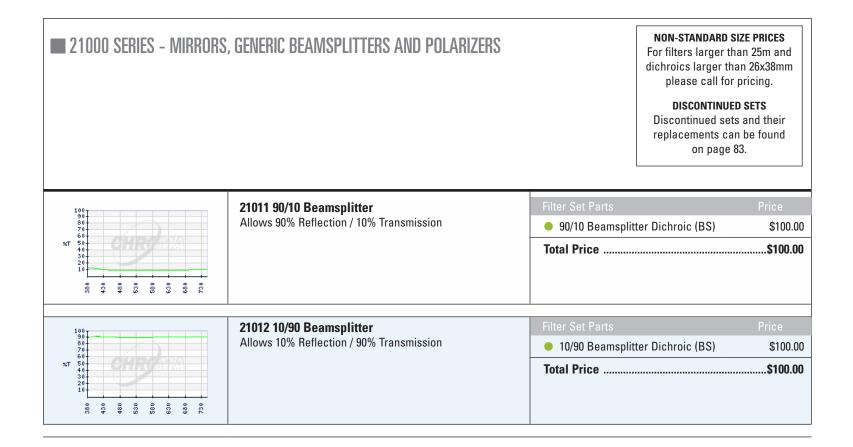


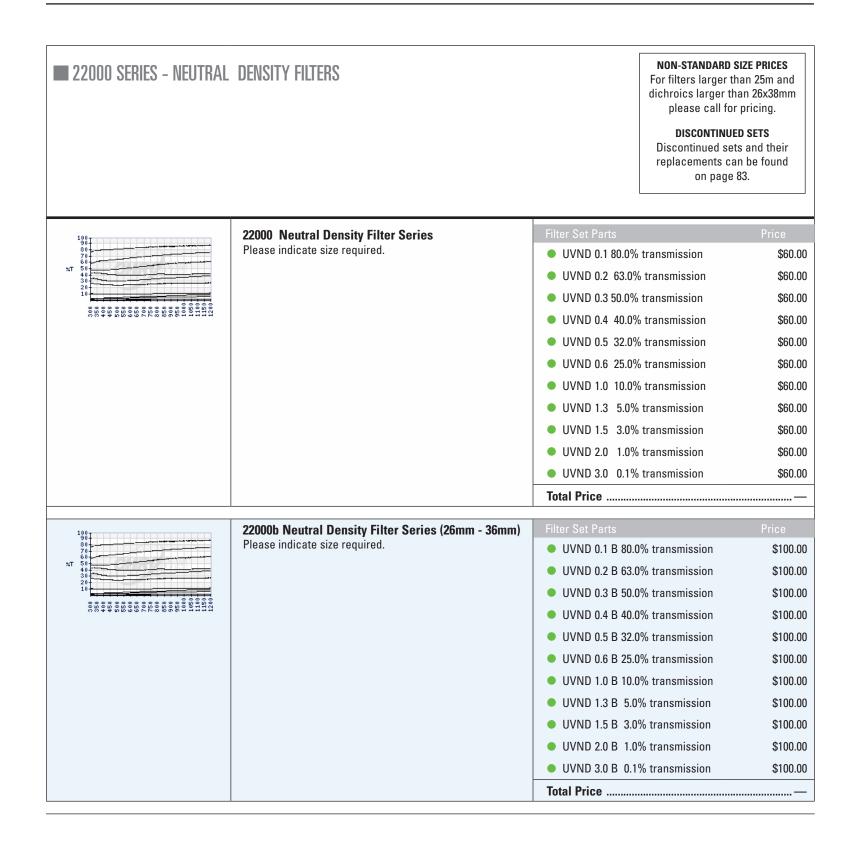




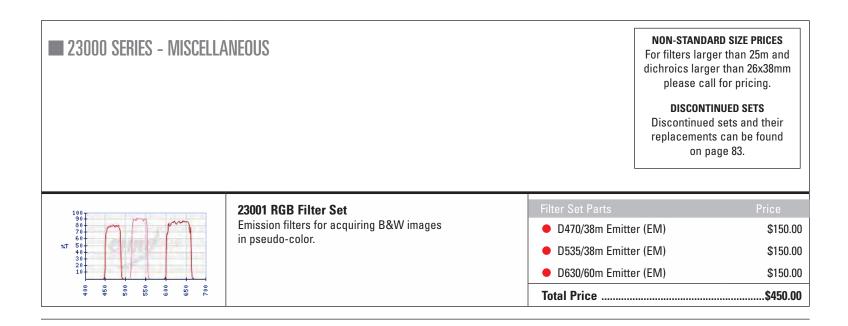


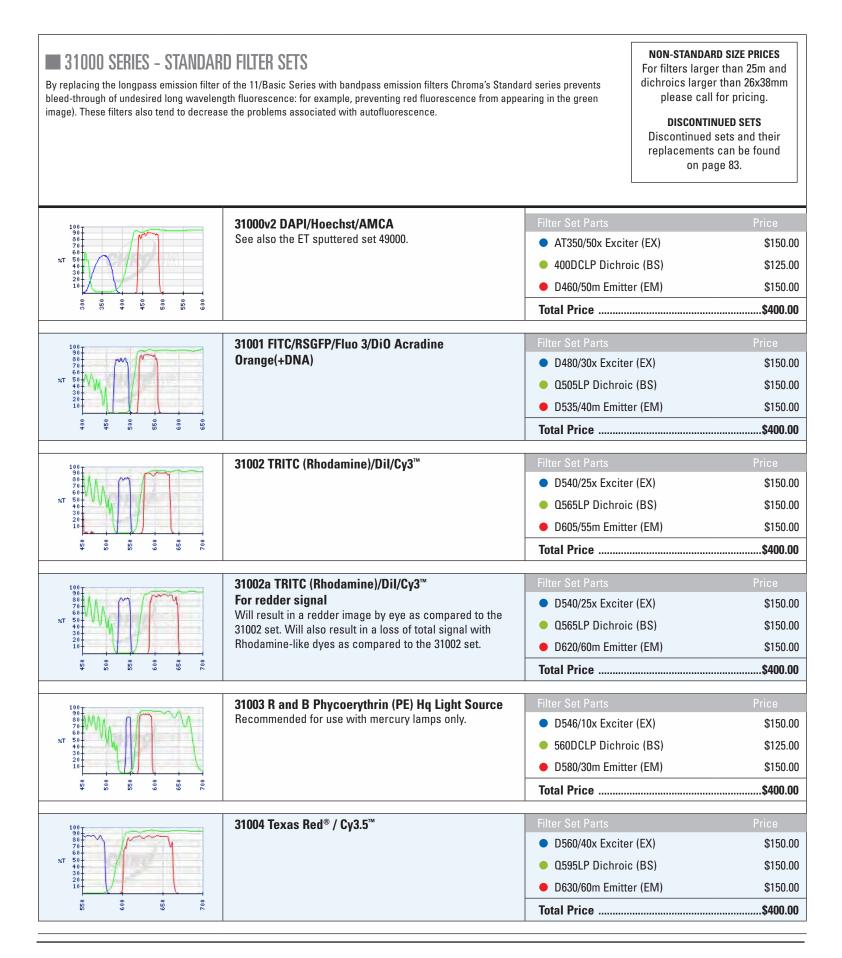
■ 21000 SERIES – MIRRORS	, GENERIC BEAMSPLITTERS AND POLARIZERS		NON-STANDARD SIZ For filters larger that dichroics larger thar please call for p DISCONTINUED Discontinued sets replacements can on page 83	n 25m and n 26x38mm ricing. <b>SETS</b> and their be found
100	21004 Fully Reflective Mirror	Filter Set Parts		Price
		Fully Reflective I	Mirror	\$150.00
		Total Price		\$150.00
100-	21006 Cold Mirror	Filter Set Parts		Price
*90- 80- 70-	Not designed for imaging. Do not use in emission	Cold Mirror		\$75.00
xT 000000000000000000000000000000000000	path or with lasers.	Total Price		\$75.00
100 90 80 70 60	21007 70/30 Beamsplitter Allows 70% Reflection / 30% Transmission	Filter Set Parts		Price
		• 70/30 Beamsplitter Dichroic (BS)		\$100.00
XT 50 40 30 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0		Total Price		\$100.00
	21008 20/80 Beamsplitter	Filter Set Parts		Price
	Allows 20% Reflection / 80% Transmission	20/80 Beamsplitt	er Dichroic (BS)	\$100.00
xT 60 40 30 20 10 0 0 0 0 0 0 0 0 0 0 0 0 0		Total Price		\$100.00
100 T	21009 30/70 Beamsplitter	Filter Set Parts		Price
90 90 80 70	Allows 30% Reflection / 70% Transmission			\$100.00
Tx 10 10 10 10 10 10 10 10 10 10		-		
100 00 00 00 00 00 00 00 00 00	21010 Enhanced Silver Reflective Mirror	Filter Set Parts		Price
		Enhanced Silver		\$275.00
TX 704 500 300 100 100 100 100 100 100 1		Total Price		\$275.00

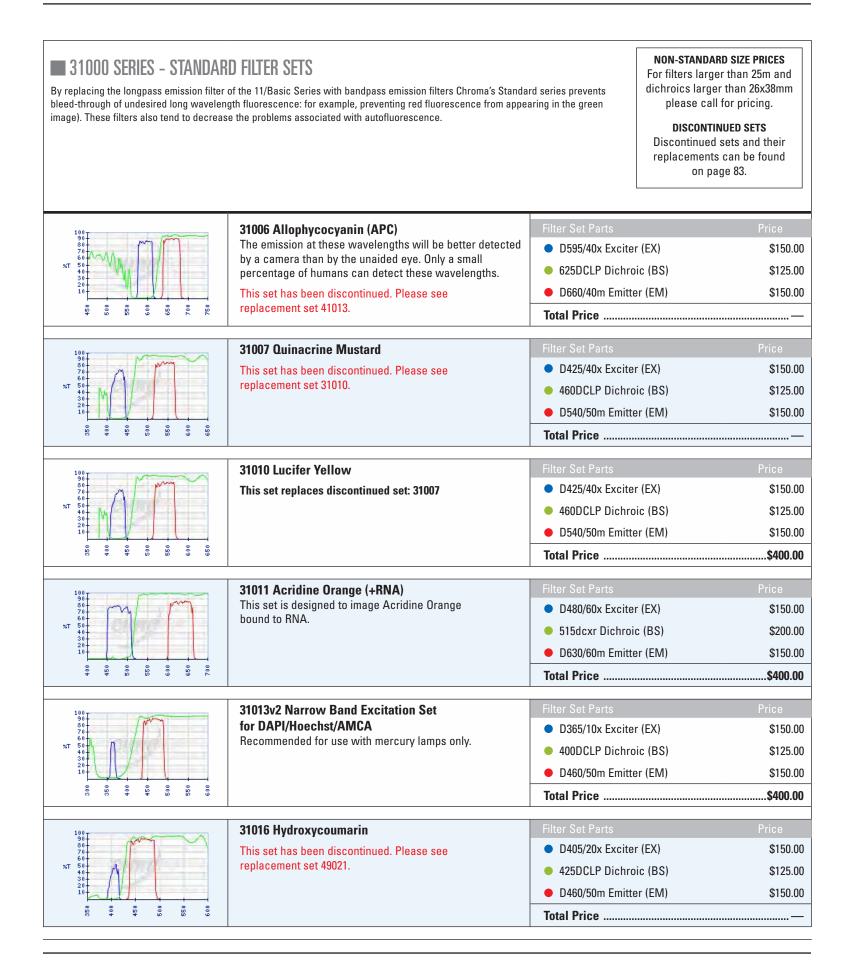


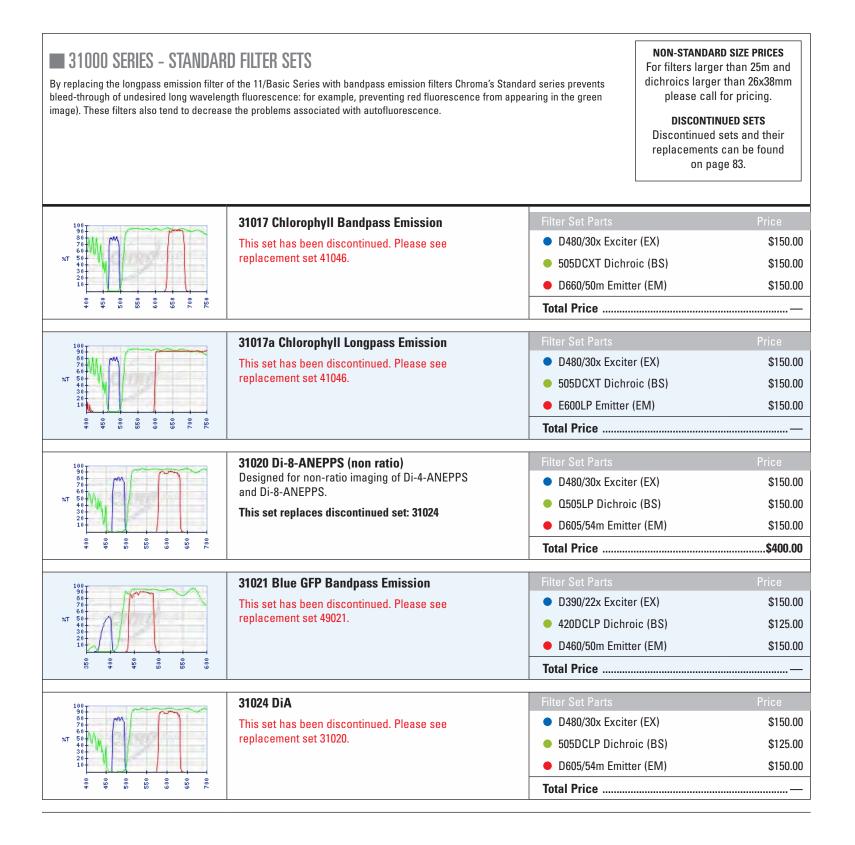


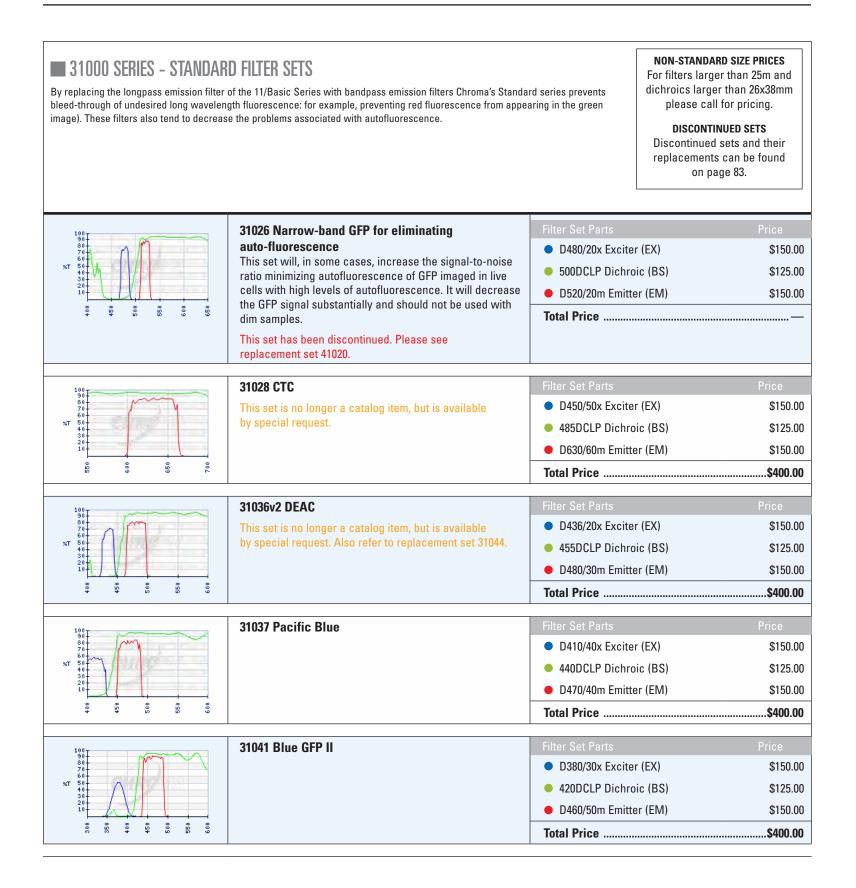
22000 SERIES - NEUTRAL	DENSITY FILTERS		NON-STANDARD For filters larger th dichroics larger th please call for DISCONTINUE Discontinued ser replacements ca on page	han 25m and han 26x38mm r pricing. ED SETS ts and their in be found
	<b>22000c Neutral Density Filter Series (37mm - 50mm)</b> Please indicate size required.	Filter Set Parts  UVND 0.1 C 80.0  UVND 0.2 C 63.0  UVND 0.3 C 50.0  UVND 0.4 C 40.0  UVND 0.5 C 32.0  UVND 0.6 C 25.0  UVND 1.0 C 10.0  UVND 1.3 C 5.09  UVND 1.5 C 3.09  UVND 2.0 C 1.09	% transmission % transmission % transmission % transmission % transmission % transmission 6 transmission 6 transmission	Price \$150.00 \$150.00 \$150.00 \$150.00 \$150.00 \$150.00 \$150.00 \$150.00 \$150.00
		• UVND 3.0 C 0.19 Total Price	% transmission	\$150.00

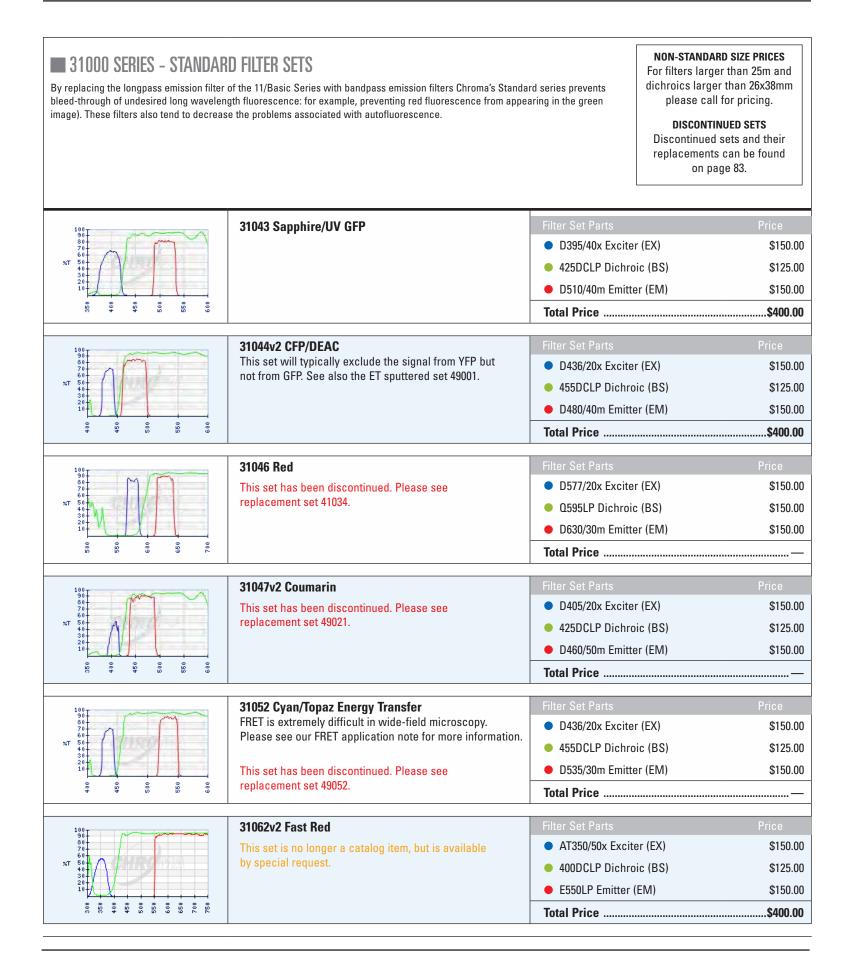


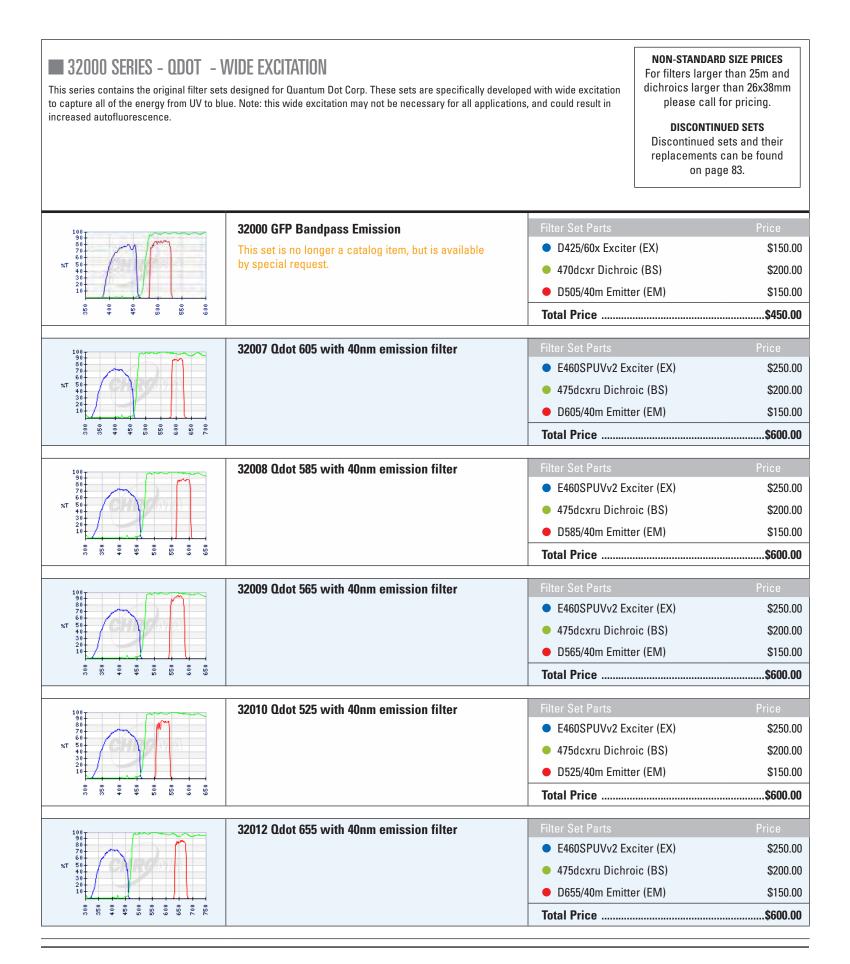


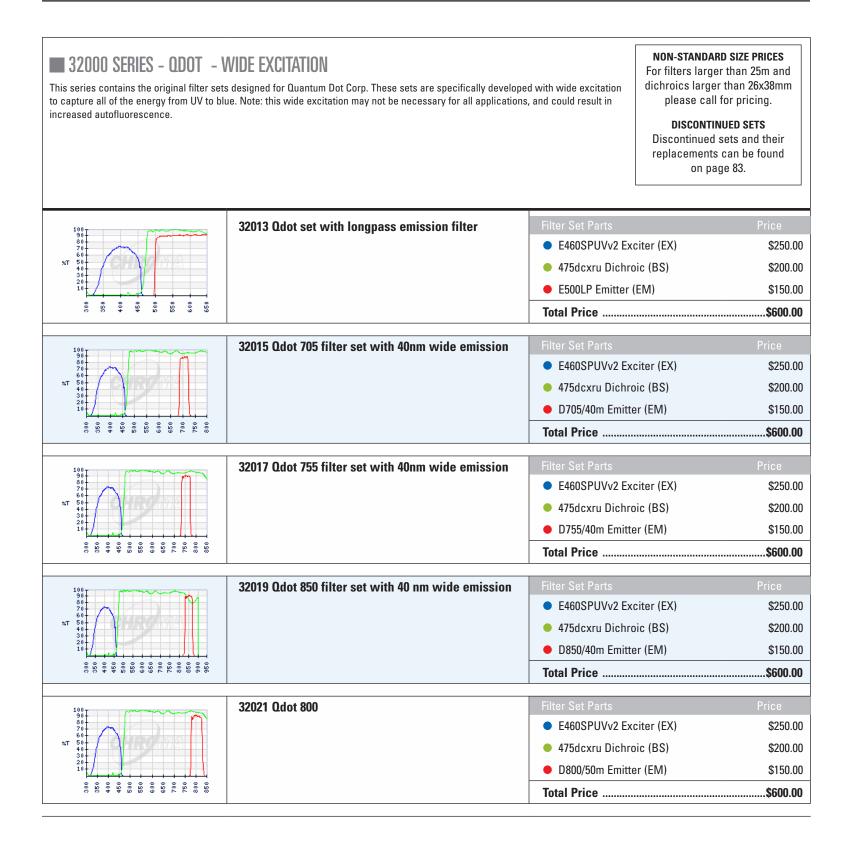


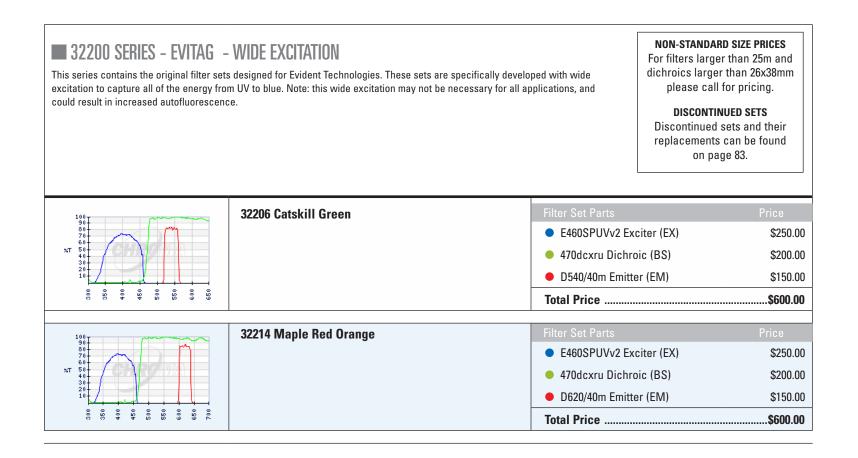


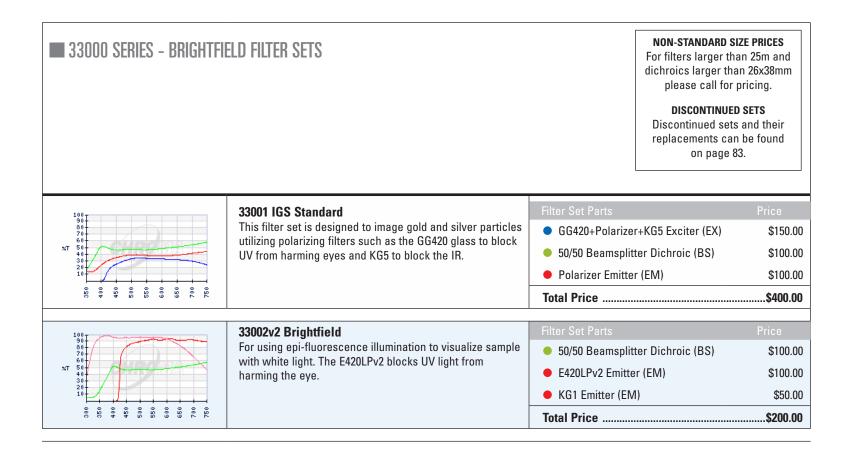


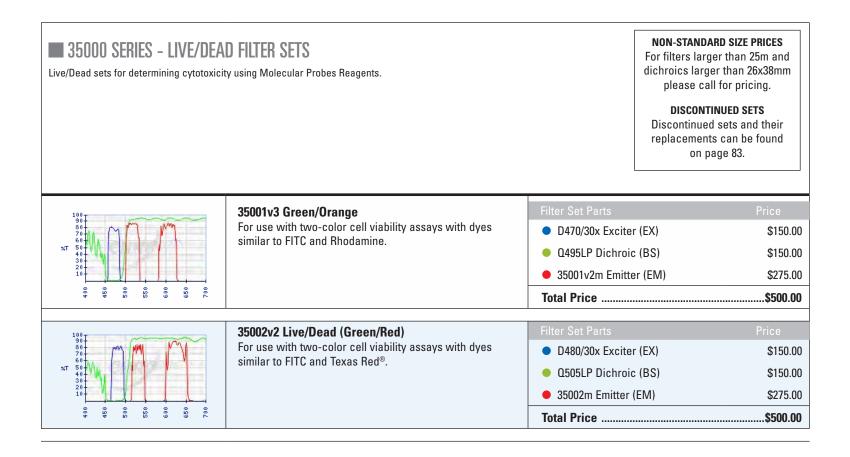


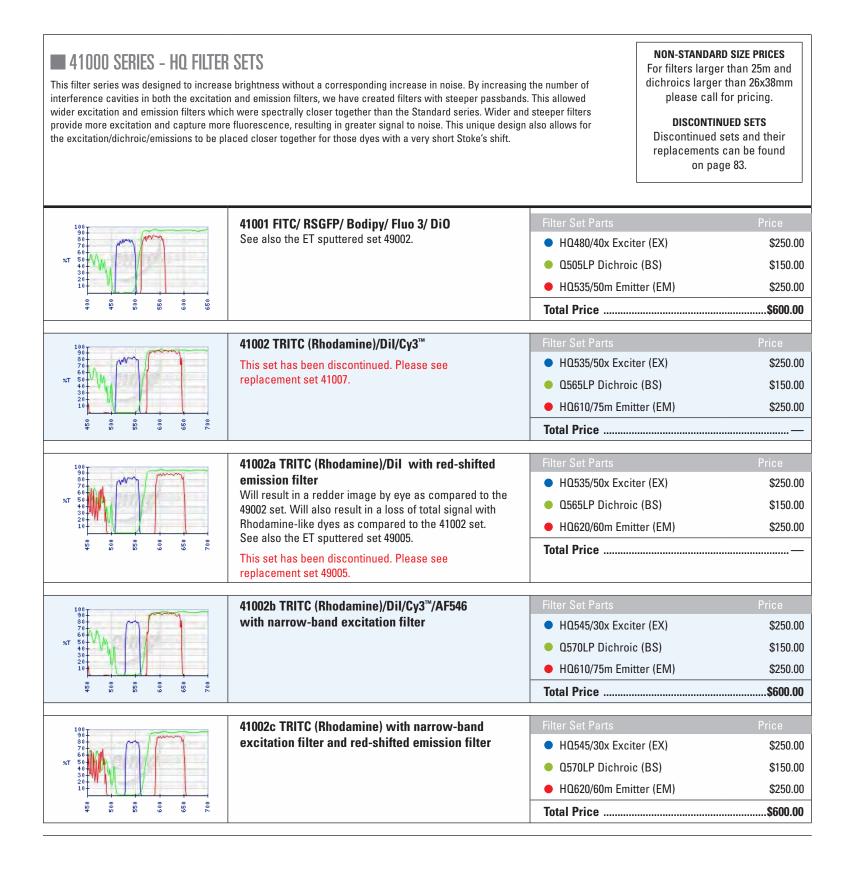


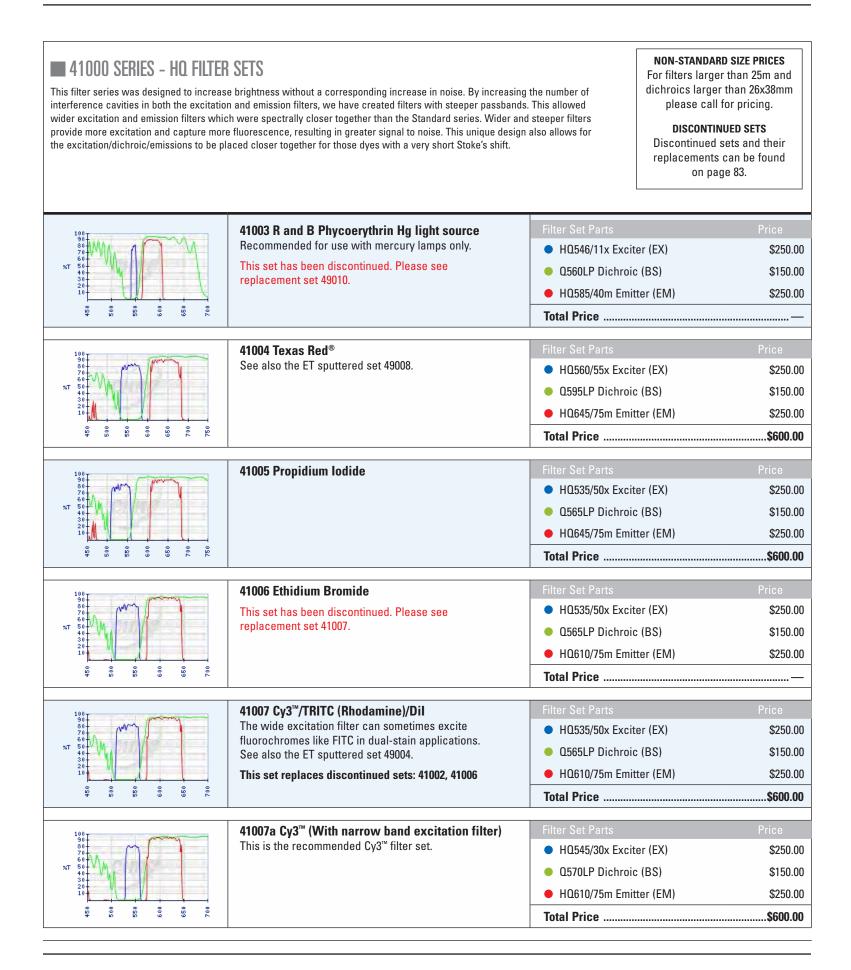


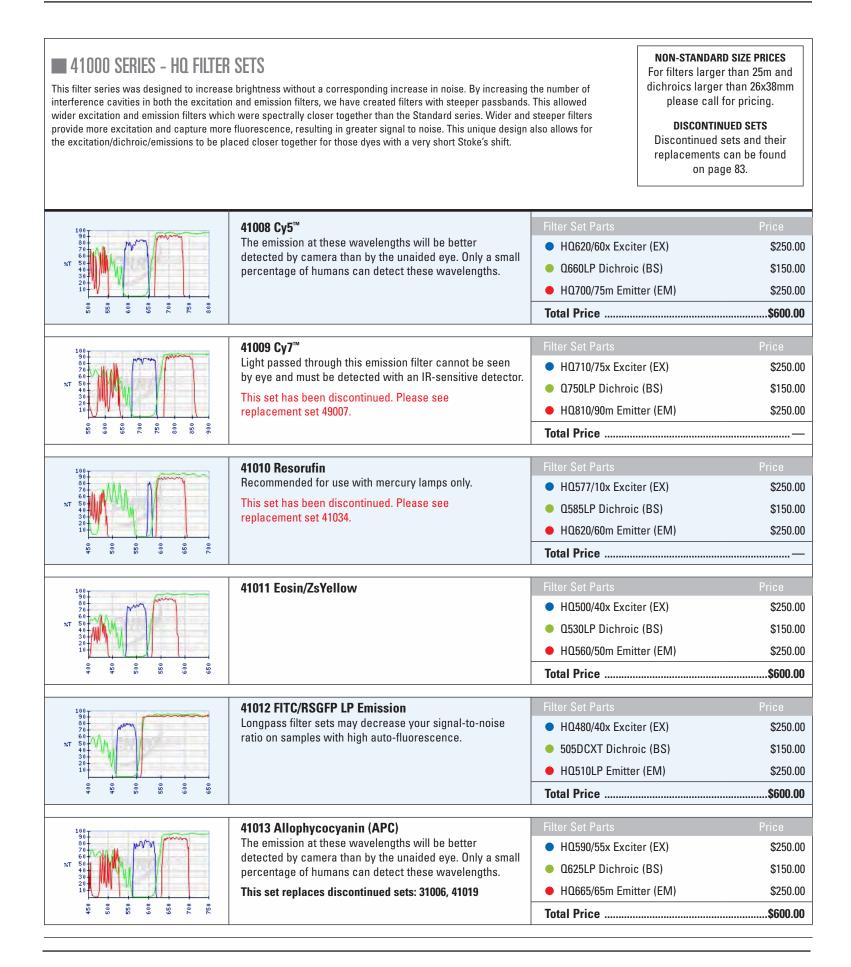


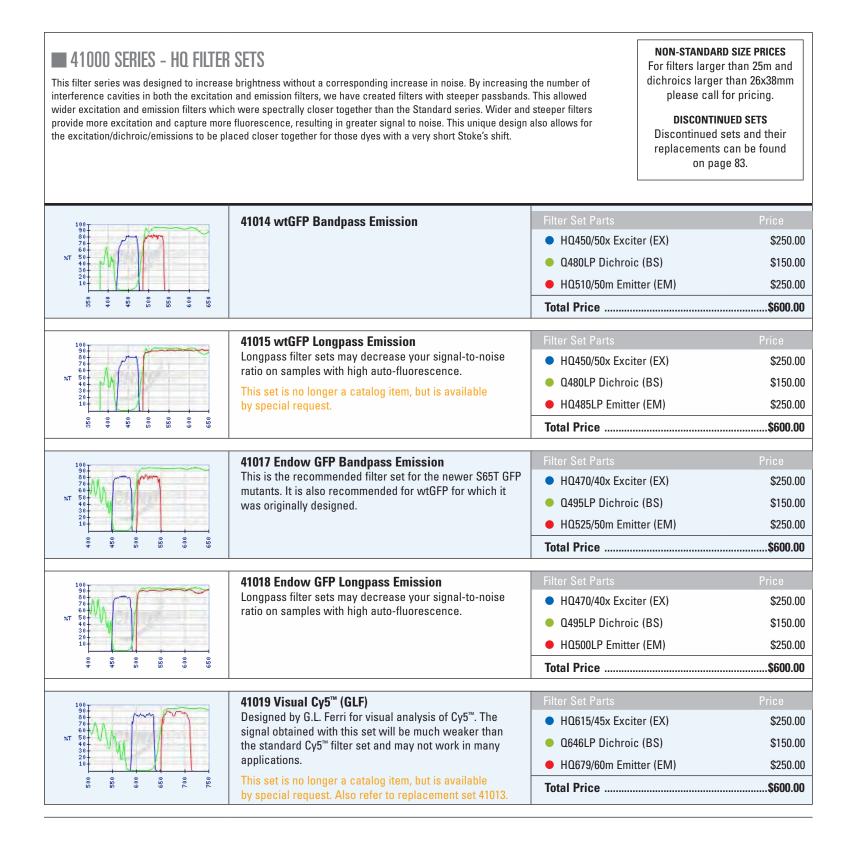


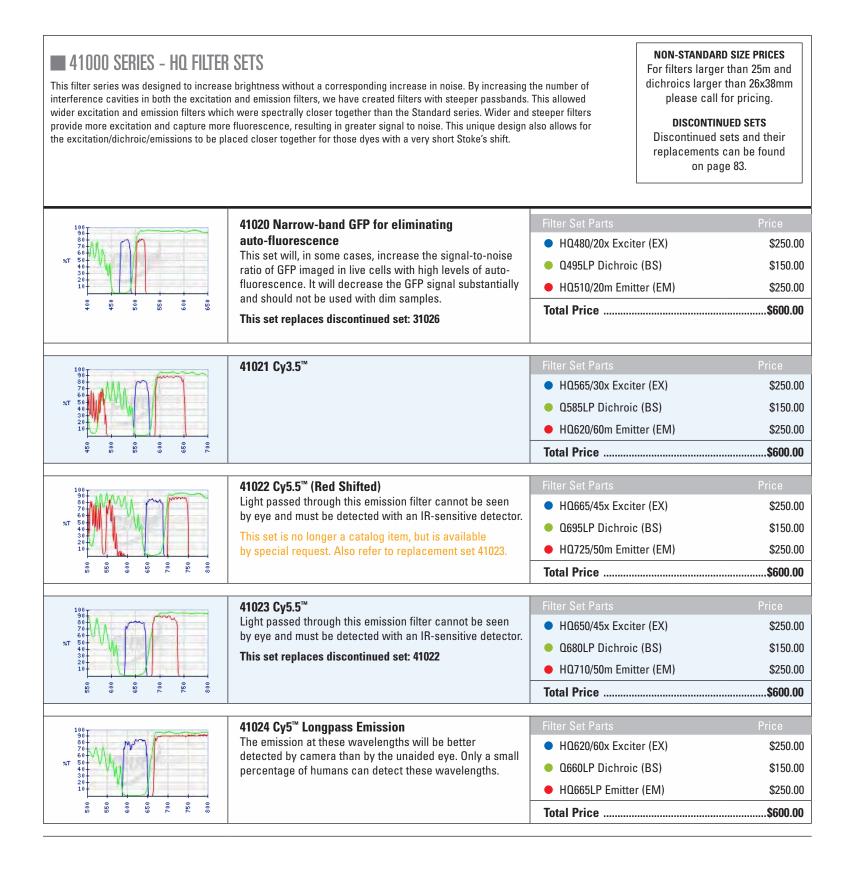


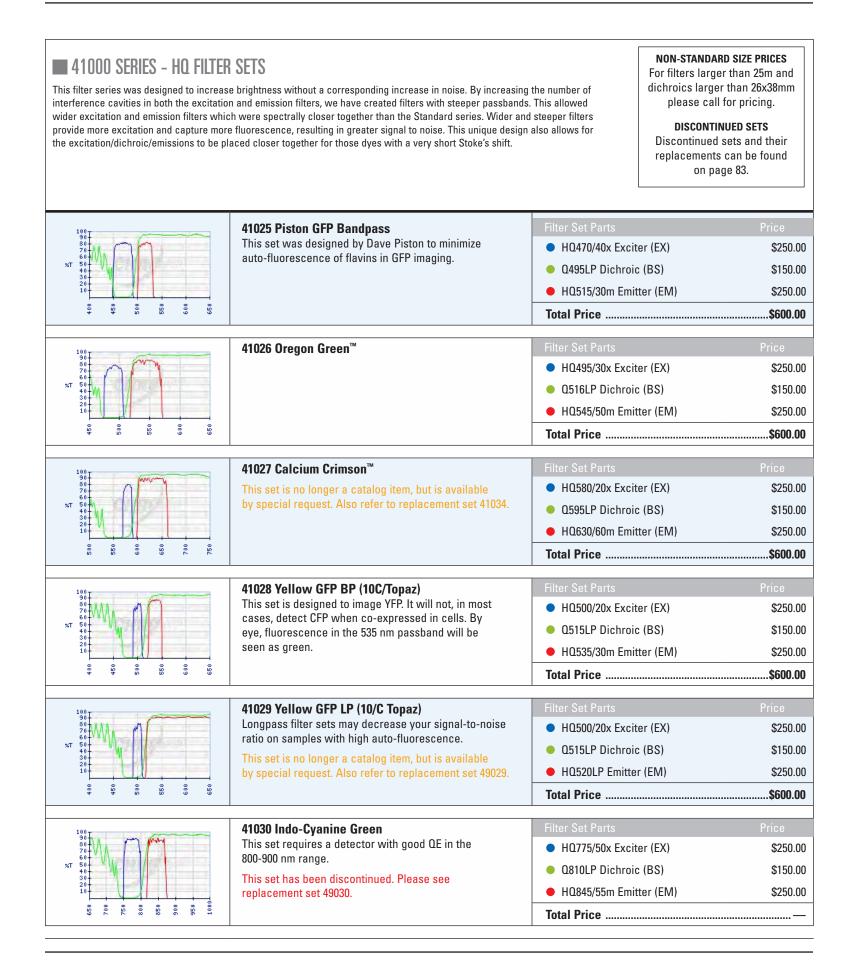


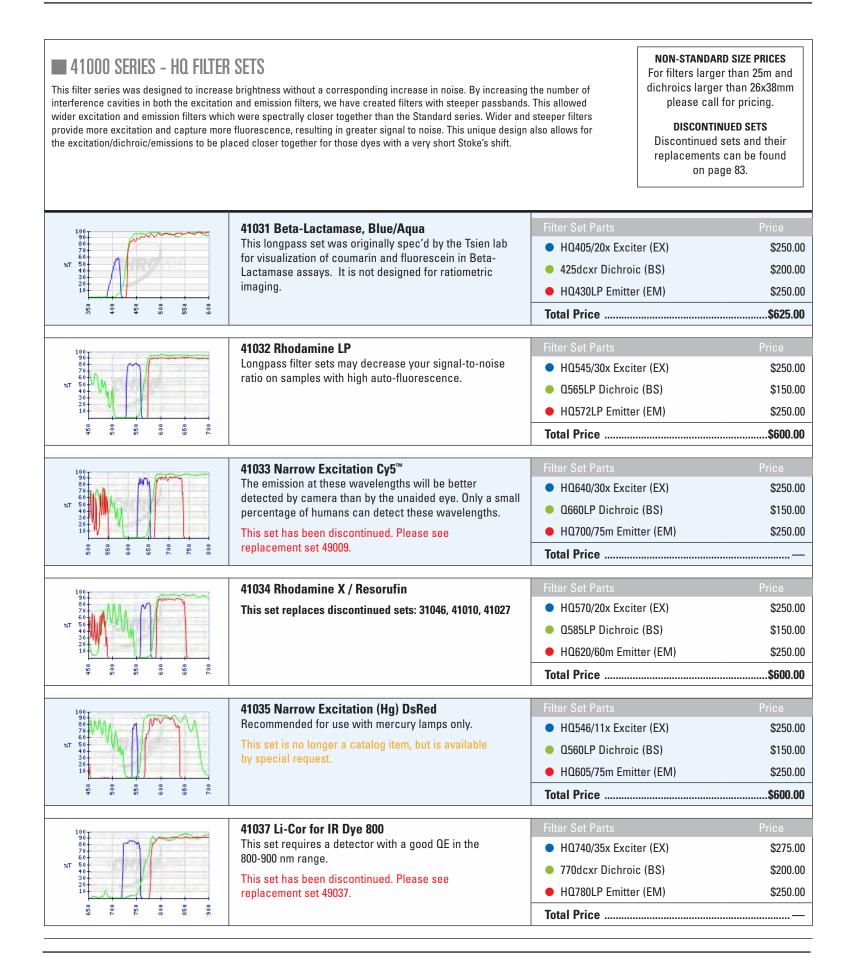


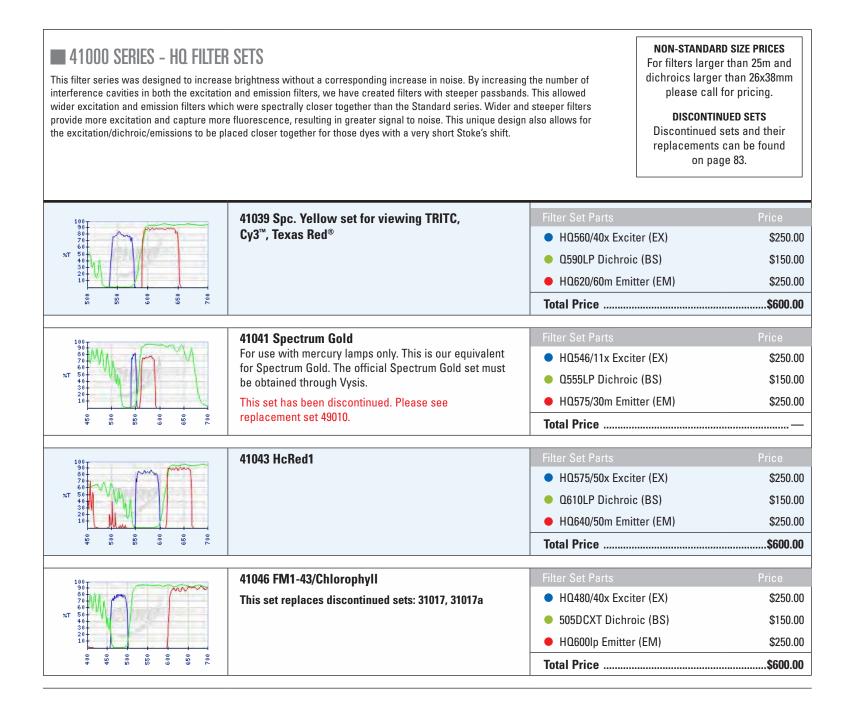


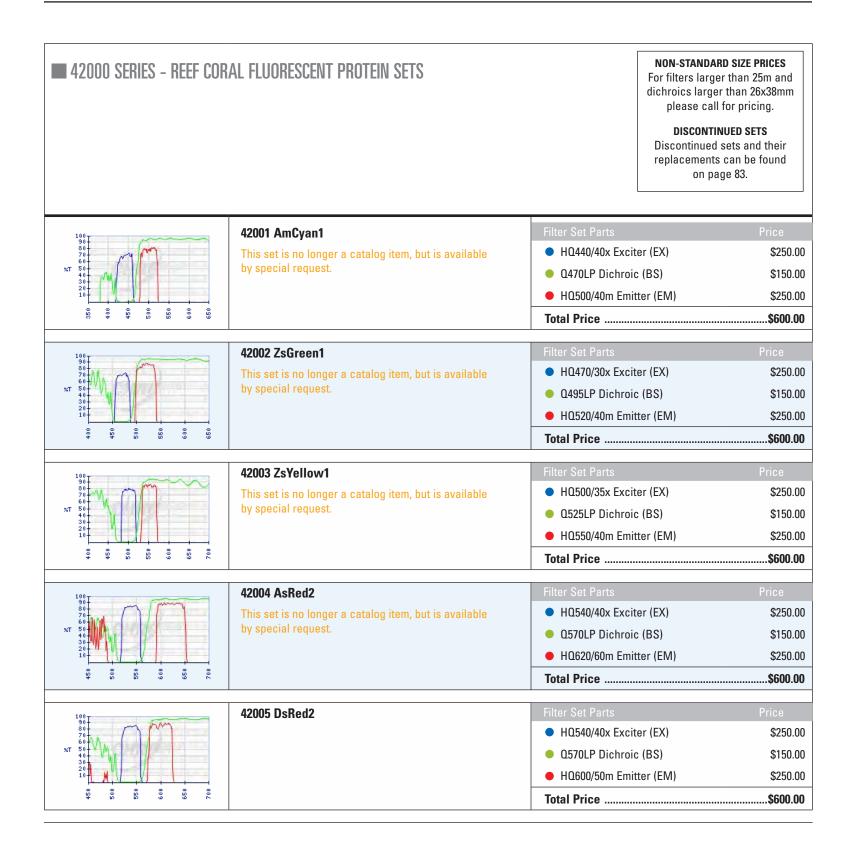


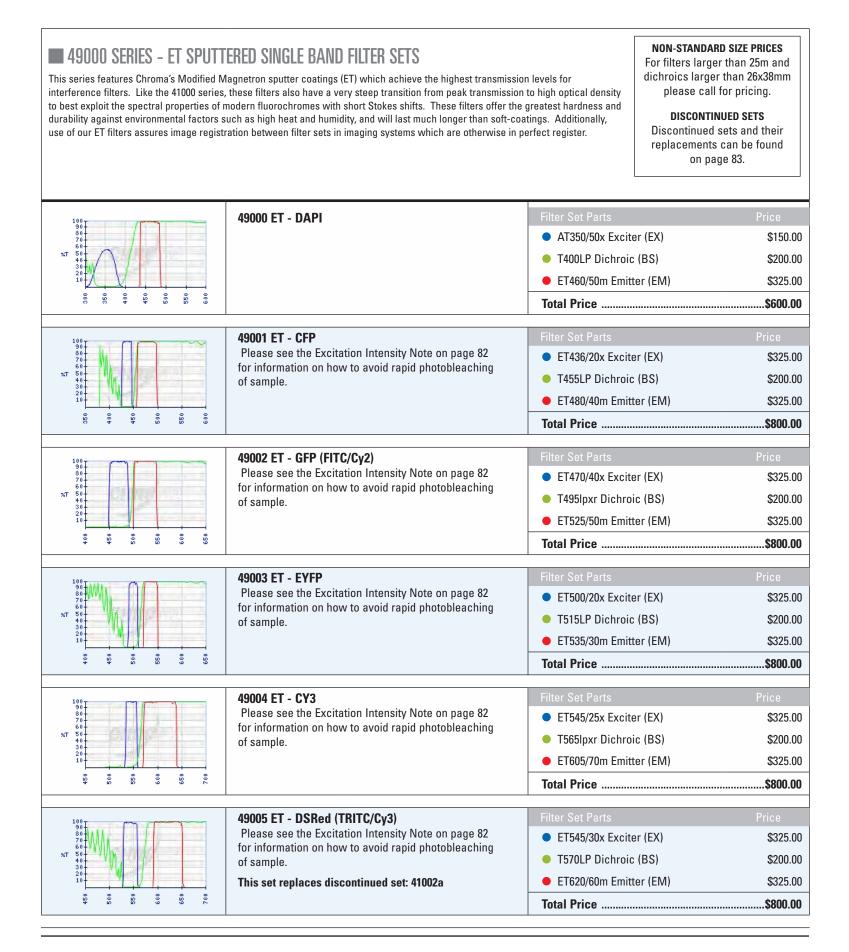


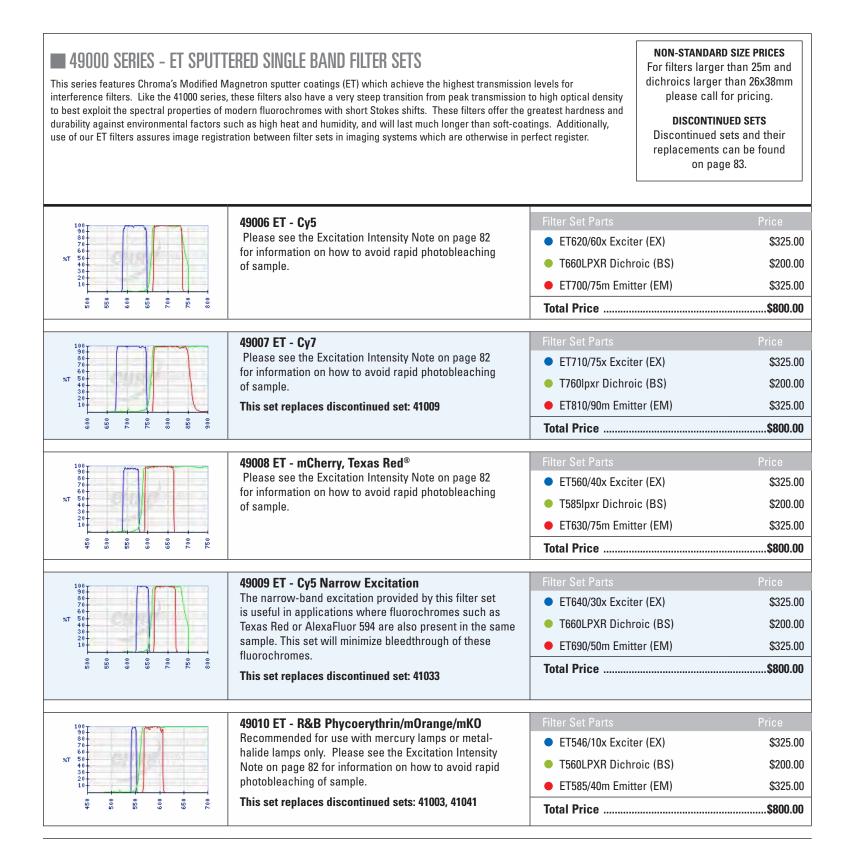


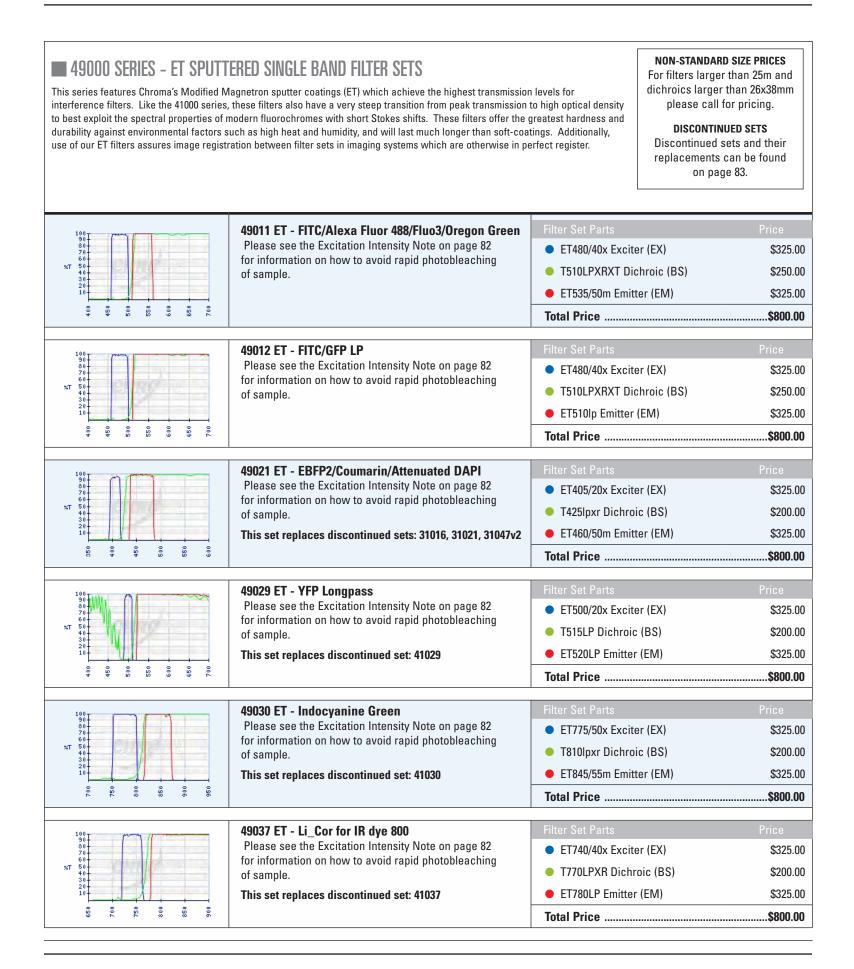


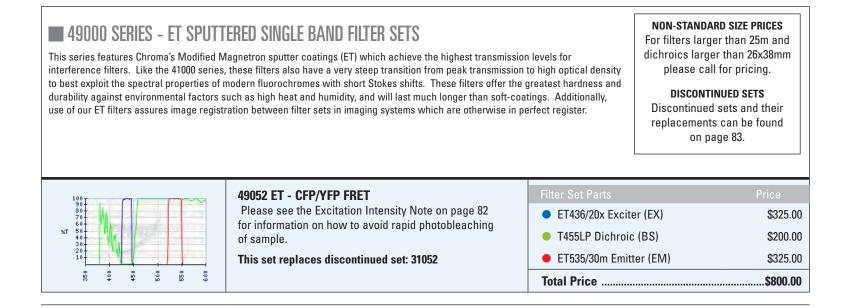


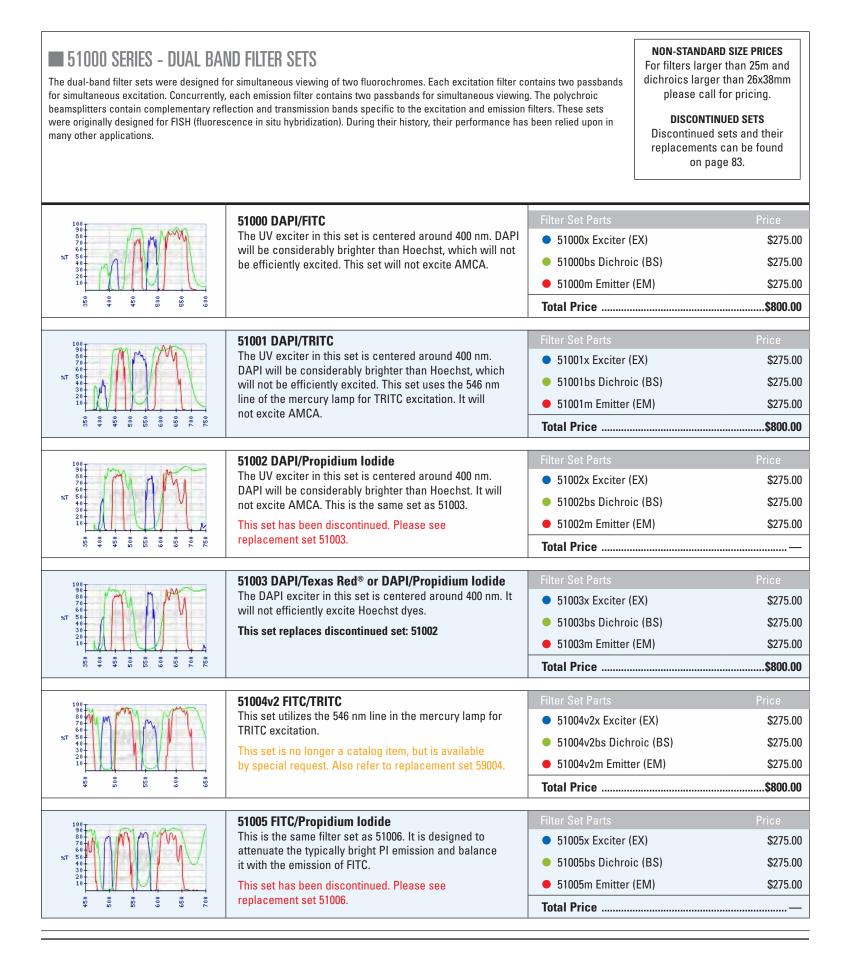


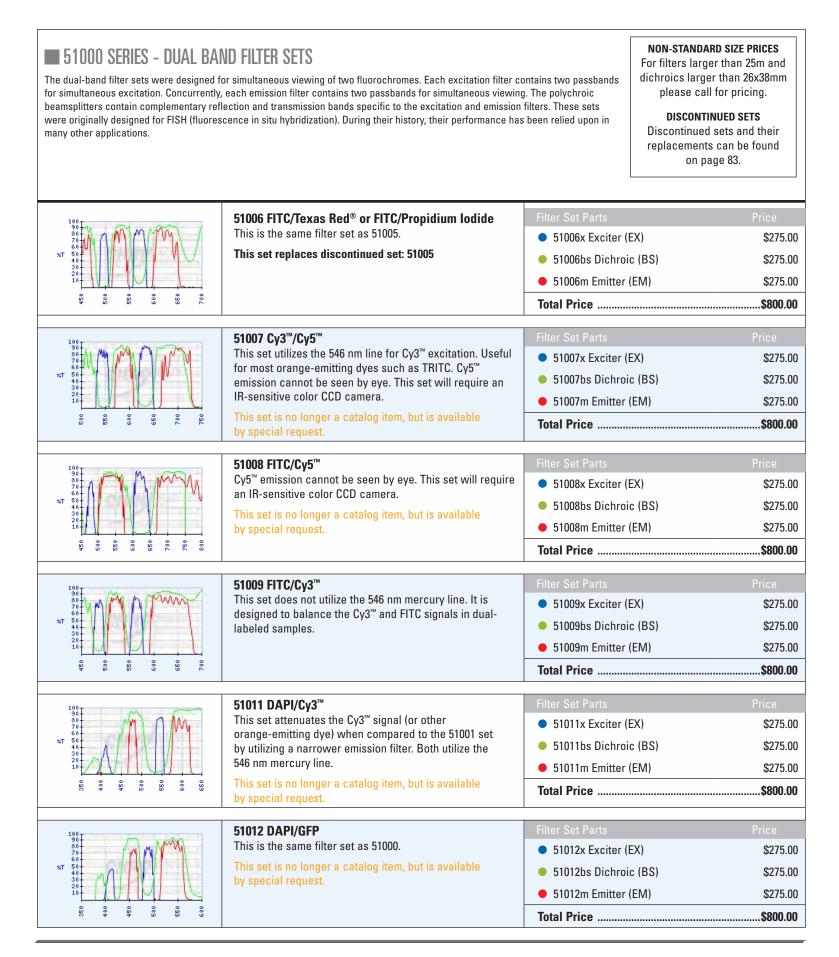


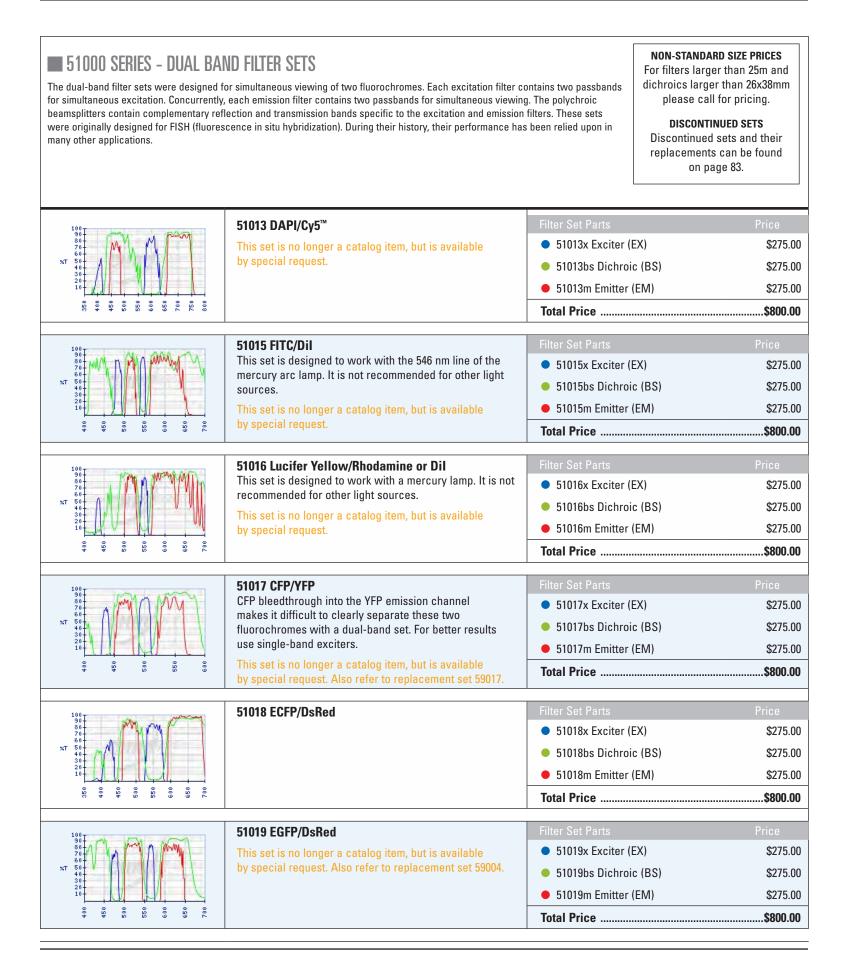




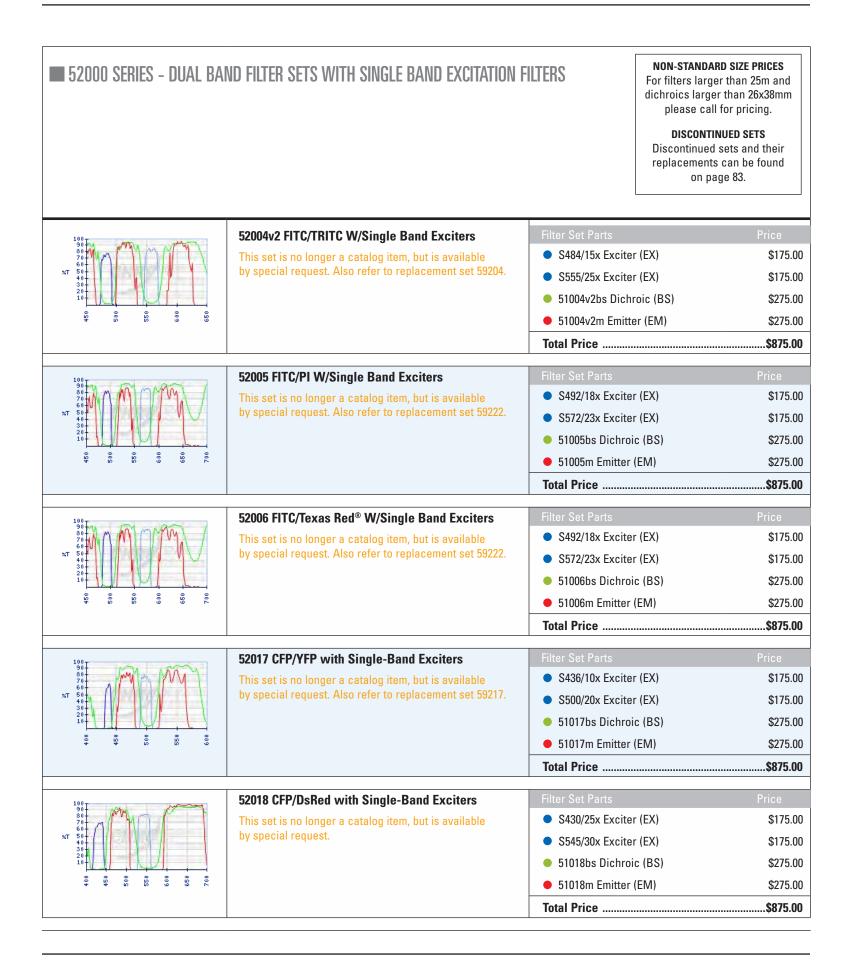








<b>51000 SERIES – DUAL BAND FILTER SETS</b> The dual-band filter sets were designed for simultaneous viewing of two fluorochromes. Each excitation filter contains two passbands for simultaneous viewing. The polychroic beamsplitters contain complementary reflection and transmission bands specific to the excitation and emission filters. These sets were originally designed for FISH (fluorescence in situ hybridization). During their history, their performance has been relied upon in many other applications.			NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.	
100 T	51022 GFP/mRFP-1 Filter Set Parts Price			
	EX) \$275.00			
• 51022bs Dichroid			c (BS) \$275.00	
<sup>20</sup> 51022m Emitter (E			EM) \$275.00	
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# **59000 SERIES - ET SPUTTERED DUAL BAND FILTER SETS AND DUAL BAND SETS WITH SINGLE BAND EXCITERS**

This series of dual-band filter sets feature our high performance ET sputter coatings. Emission filters have two passbands specific for a particular pair of fluorochromes. The sets with dual-band excitation filters allow for simultaneous visualization of two fluorochromes as often required for applications such as FISH or screening assays. The sets with two single-band excitation filters allow for selective excitation, but require the use of excitation filter wheels or sliders. NOTE: sets with multi-band excitation filters are not appropriate for imaging with a monochrome camera.

NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

DISCONTINUED SETS

TT 500 00 00 00 00 00 00 00 00 00 00 00 00	59004 FITC/TRITC - ET Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching of sample. This set replaces discontinued sets: 51004v2, 51019	Filter Set Parts <ul> <li>59004x Exciter (EX)</li> <li>59004bs Dichroic (BS)</li> <li>59004m Emitter (EM)</li> </ul> Total Price	Price \$350.00 \$300.00 \$350.00 \$900.00
			φ300.00
100 90 70 50 50 50 40 40 30 50 50 40 50 50 50 50 50 50 50 50 50 50 50 50 50	<b>59017 CFP/YFP - ET</b> Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching of sample.	Filter Set Parts <ul> <li>59017x Exciter (EX)</li> <li>59017bs Dichroic (BS)</li> </ul>	Price \$350.00 \$300.00
	This set replaces discontinued set: 51017	<ul> <li>59017m Emitter (EM)</li> </ul>	\$350.00
6 2 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Total Price	\$900.00
	59022 GFP/mCherry (or FITC/TxRed) - ET Please see the Excitation Intensity Note on page 82	Filter Set Parts	Price
70- 60- xT 50-	for information on how to avoid rapid photobleaching	• 59022x Exciter (EX)	\$350.00
All 40- 30- 20-	of sample.	• 59022bs Dichroic (BS)	\$300.00
		• 59022m Emitter (EM)	\$350.00
400 22 20 40 40 40 40 40 40 40 40 40 40 40 40 40		Total Price	\$900.00
	59204 FITC/TRITC with single band exciters - ET	Filter Set Parts	Price
	Please see the Excitation Intensity Note on page 82	• ET470/40x Exciter (EX)	\$325.00
ST 50	for information on how to avoid rapid photobleaching of sample.	<ul> <li>ET548/10x Exciter (EX)</li> </ul>	\$325.00
30-20-10-00-00-00-00-00-00-00-00-00-00-00-00	This set replaces discontinued set: 52004v2	<ul> <li>59004bs Dichroic (BS)</li> </ul>	\$300.00
		<ul> <li>59004m Emitter (EM)</li> </ul>	\$350.00
		Total Price	•••••
	59217 CFP/YFP with single band exciters - ET	Filter Set Parts	Price
80- 70- 60-	Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching	• ET430/24x Exciter (EX)	\$325.00
хт 50- 40- 30-	of sample.	• ET500/20x Exciter (EX)	\$325.00
20 10	This set replaces discontinued set: 52017	59017bs Dichroic (BS)	\$300.00
600 55 00 600 55 00		• 59017m Emitter (EM)	\$350.00
		Total Price	\$1175.00

## ■ 59000 SERIES – ET SPUTTERED DUAL BAND FILTER SETS AND DUAL BAND SETS WITH SINGLE BAND EXCITERS

This series of dual-band filter sets feature our high performance ET sputter coatings. Emission filters have two passbands specific for a particular pair of fluorochromes. The sets with dual-band excitation filters allow for simultaneous visualization of two fluorochromes as often required for applications such as FISH or screening assays. The sets with two single-band excitation filters allow for selective excitation, but require the use of excitation filter wheels or sliders. NOTE: sets with multi-band excitation filters are not appropriate for imaging with a monochrome camera.

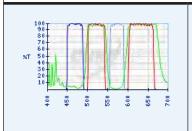
#### **NON-STANDARD SIZE PRICES**

For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

#### **DISCONTINUED SETS**

Discontinued sets and their replacements can be found on page 83.

\$325.00



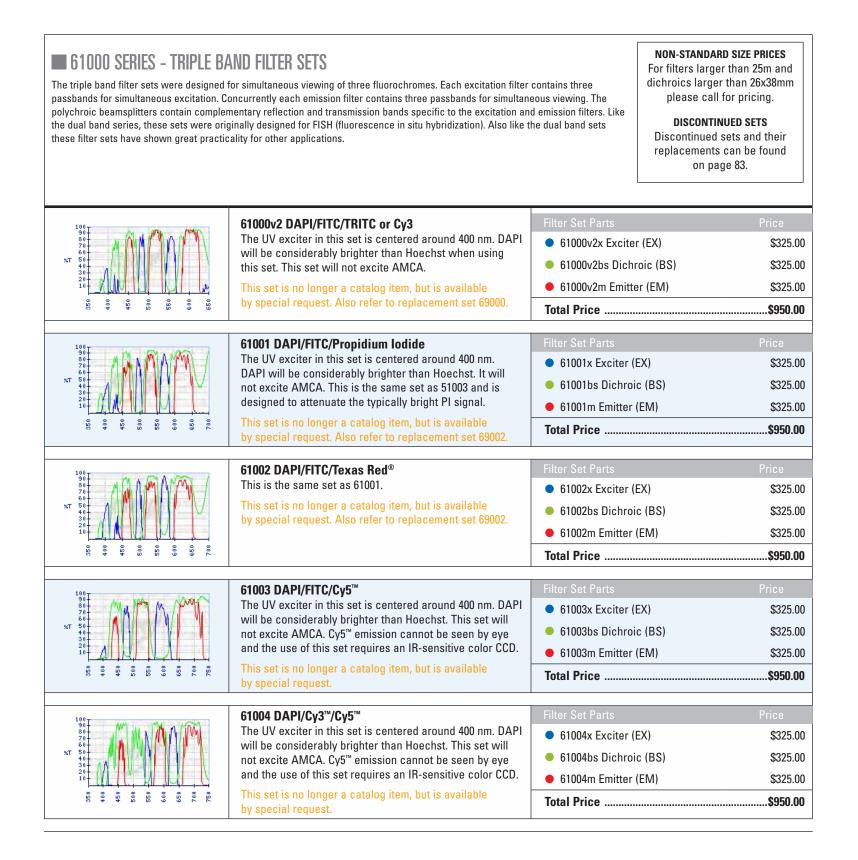
### 59222 GFP/mCherry (or FITC/TxRed) with single band exciters - ET

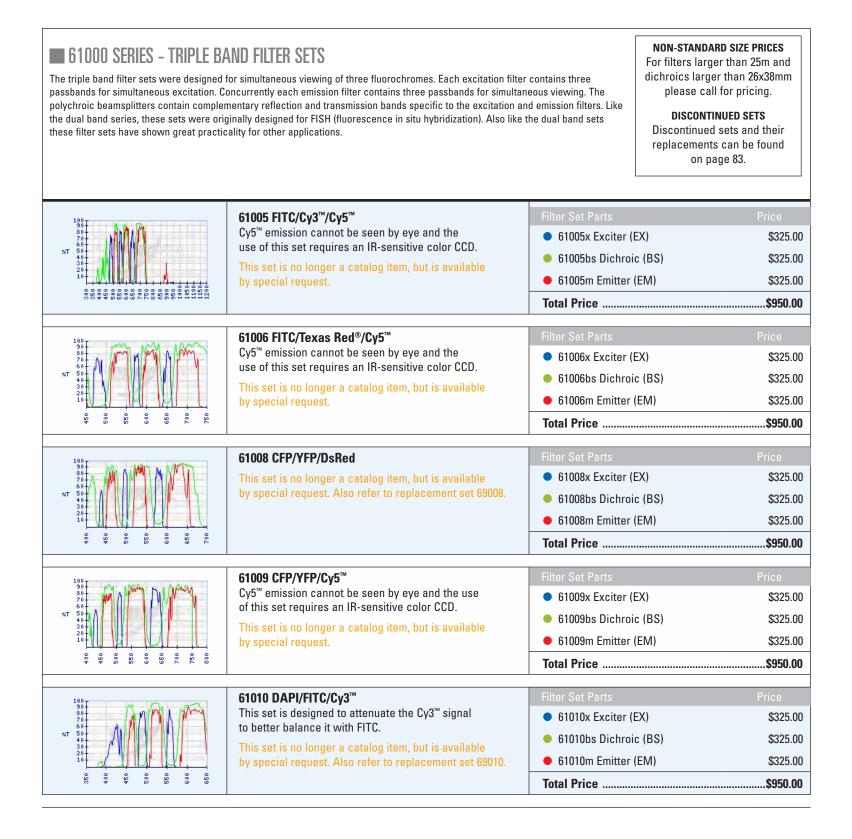
Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching of sample.

This set replaces discontinued sets: 52005, 52006

## ET470/40x Exciter (EX)

- \$325.00 ET572/35x Exciter (EX)
- 59022bs Dichroic (BS) \$300.00 \$350.00
- 59022m Emitter (EM)
- Total Price .....\$1175.00





62000 SERIES - TRIPLE B	AND FILTER SETS WITH SINGLE BAND EXCITATION		NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.
100 -	62000v3 DAPI/FITC/TRITC or Cy3	Filter Set Parts	Price
	with single band exciters	• AT350/50x Exciter	(EX) \$150.00
хт 50 40 30	This set is no longer a catalog item, but is available by special request. Also refer to replacement set 69300.	• S484/15x Exciter (	EX) \$175.00
	by special request. Also refer to replacement set 03500.	• S555/25x Exciter (	EX) \$175.00
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		• 62000v2bs Dichro	ic (BS) \$400.00
		• 61000v2m Emitter	(EM) \$325.00
		Total Price	\$1125.00
100 T	62001 DAPI/FITC/Propidium Iodide	Filter Set Parts	Price
		• AT350/50x Exciter	(EX) \$150.00
xT 50 40 30+	This set is no longer a catalog item, but is available by special request. Also refer to replacement set 69302.	• S492/18x Exciter (	EX) \$175.00
	by special request. Also refer to replacement set 03002.	• S572/23x Exciter (	EX) \$175.00
300 4400 500 500 400 400 400 400 400 400		• 61001bs Dichroic	(BS) \$325.00
		• 61001m Emitter (E	M) \$325.00
		Total Price	\$1125.00
100	62002v2 DAPI/FITC/Texas Red®	Filter Set Parts	Price
	w/single-band exciters	• AT350/50x Exciter	(EX) \$150.00
XT 50 40 30	This set is no longer a catalog item, but is available by special request. Also refer to replacement set 69302.	• S492/18x Exciter (	EX) \$175.00
	by special request. Also refer to replacement set 03502.	• S572/23x Exciter (	EX) \$175.00
300 4400 500 500 400 400 400 400 400 400		62002BS Dichroic	(BS) \$400.00
		• 61002m Emitter (E	EM) \$325.00
			\$1125.00

## ■ 69000 SERIES – ET SPUTTERED TRIPLE BAND FILTER SETS AND TRIPLE BAND SETS WITH SINGLE BAND EXCITERS

This series of triple-band filter sets feature our high performance ET sputter coatings. Emission filters have three passbands specific for a particular trio of fluorochromes. The sets with triple-band excitation filters allow for simultaneous visualization of three fluorochromes as often required for applications such as FISH or screening assays. The sets with three single-band excitation filters allow for selective excitation, but require the use of excitation filter wheels or sliders. NOTE: sets with multi-band excitation filters are not appropriate for imaging with a monochrome camera.

NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

#### DISCONTINUED SETS

	1	1	
	69000 DAPI/FITC/TRITC - ET	Filter Set Parts	Price
	Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching	69000x Exciter (EX)	\$400.00
%Т 50 40- 30- 20-	of sample.	69000bs Dichroic (BS)	\$350.00
	This set replaces discontinued set: 61000v2	• 69000m Emitter (EM)	\$400.00
60 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Total Price	\$1075.00
	69002 DAPI/FITC/Texas Red® - ET	Filter Set Parts	Price
	Please see the Excitation Intensity Note on page 82	<ul> <li>69002x Exciter (EX)</li> </ul>	\$400.00
б0- хт 50- 40-	for information on how to avoid rapid photobleaching of sample.	<ul> <li>69002bs Dichroic (BS)</li> </ul>	\$350.00
	This set replaces discontinued sets: 61001, 61002	<ul> <li>69002m Emitter (EM)</li> </ul>	\$400.00
	This set replaces discontinued sets. 01001, 01002	Total Price	
	69008 CFP/YFP/mCherry - ET	Filter Set Parts	Price
	Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching	• 69008x Exciter (EX)	\$400.00
XT 50- 40- 30-	of sample.	69008bs Dichroic (BS)	\$350.00
	This set replaces discontinued set: 61008	• 69008m Emitter (EM)	\$400.00
350 550 550 550 570 570 570 570 570 570 5		Total Price	\$1075.00
	69300 Dapi/FITC/TRITC with single band exciters - ET	Filter Set Parts	Price
70- 60- xT 50-	Please see the Excitation Intensity Note on page 82	<ul> <li>ET402/15x Exciter (EX)</li> <li>ET405/00 E in (EX)</li> </ul>	\$325.00
40 30 20 10	for information on how to avoid rapid photobleaching of sample.	ET485/20x Exciter (EX)	\$325.00
	This set replaces discontinued set: 62000v3	• ET550/15x Exciter (EX)	\$325.00
× × × × × × × × ×	This set replaces discontinued set: 02000v3	69000bs Dichroic (BS)	\$350.00
		• 69000m Emitter (EM)	\$400.00
		Total Price	\$1450.00
100-	69302 DAPI/FITC/Texas Red® with single	Filter Set Parts	Price
	band exciters - ET	• ET402/15x Exciter (EX)	\$325.00
	Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching	• ET490/20x Exciter (EX)	\$325.00
XT 50 40 20 10	of sample.	<ul> <li>ET572/35x Exciter (EX)</li> </ul>	\$325.00
	This set replaces discontinued sets: 62001, 62002v2	<ul> <li>69002bs Dichroic (BS)</li> </ul>	\$350.00
		<ul> <li>69002m Emitter (EM)</li> </ul>	\$400.00
		Total Price	
		10(0111100	φιτου.00

## ■ 69000 SERIES – ET SPUTTERED TRIPLE BAND FILTER SETS AND TRIPLE BAND SETS WITH SINGLE BAND EXCITERS

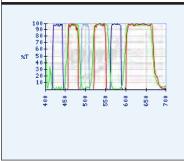
This series of triple-band filter sets feature our high performance ET sputter coatings. Emission filters have three passbands specific for a particular trio of fluorochromes. The sets with triple-band excitation filters allow for simultaneous visualization of three fluorochromes as often required for applications such as FISH or screening assays. The sets with three single-band excitation filters allow for selective excitation, but require the use of excitation filter wheels or sliders. NOTE: sets with multi-band excitation filters are not appropriate for imaging with a monochrome camera.

NON-STANDARD SIZE PRICES

For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

#### **DISCONTINUED SETS**

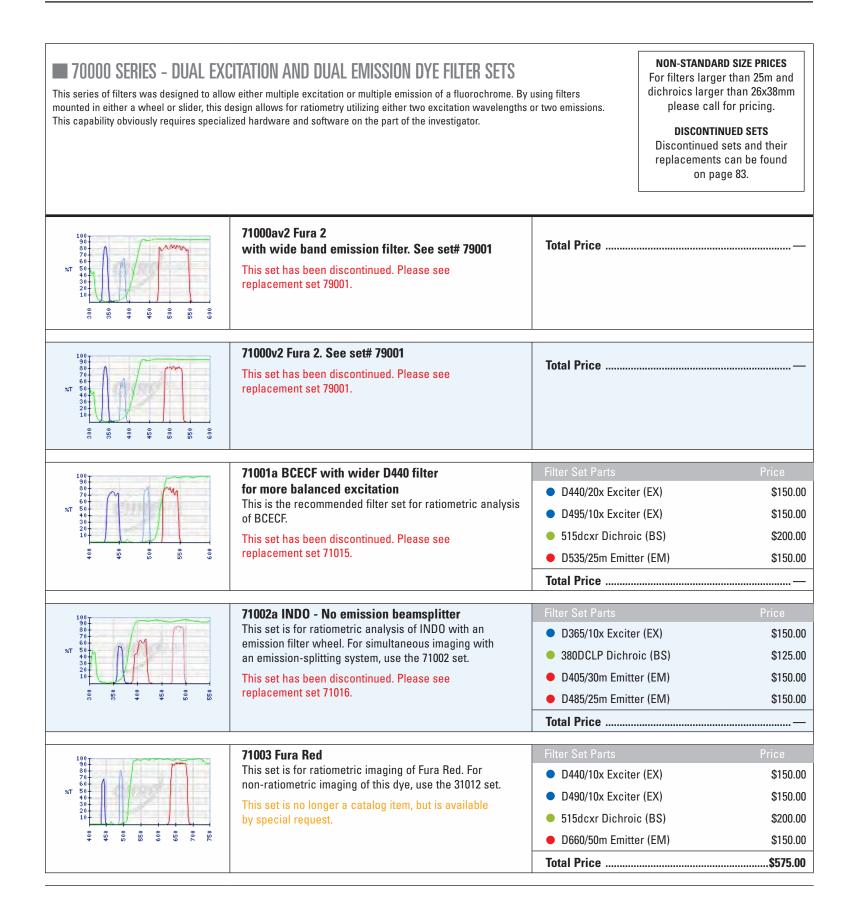
Discontinued sets and their replacements can be found on page 83.

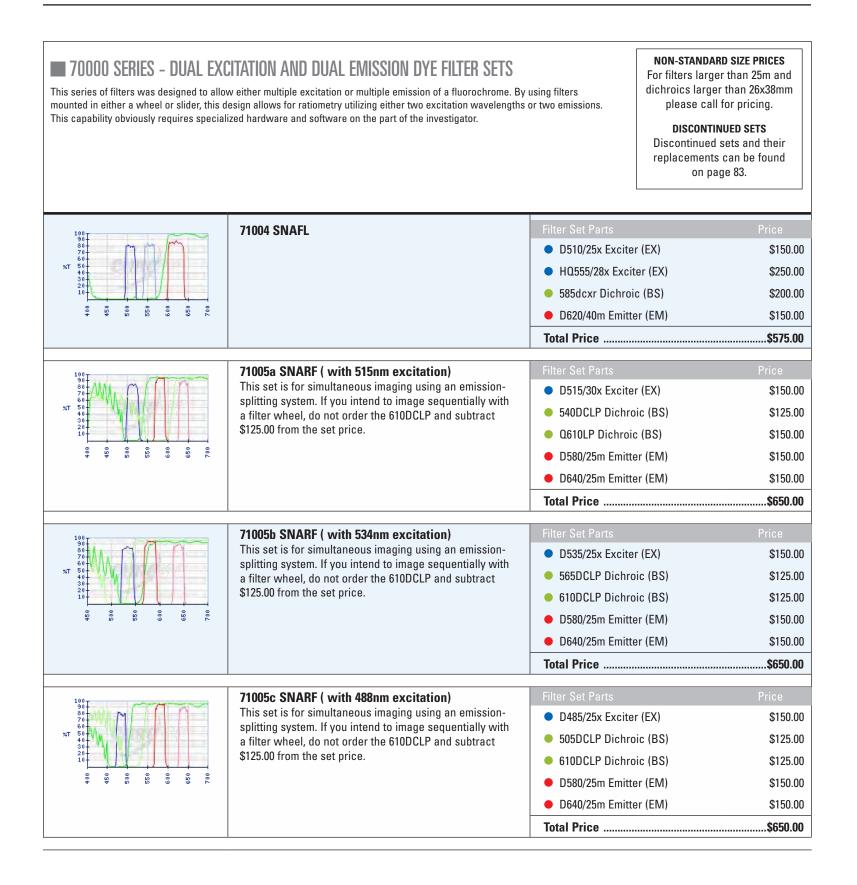


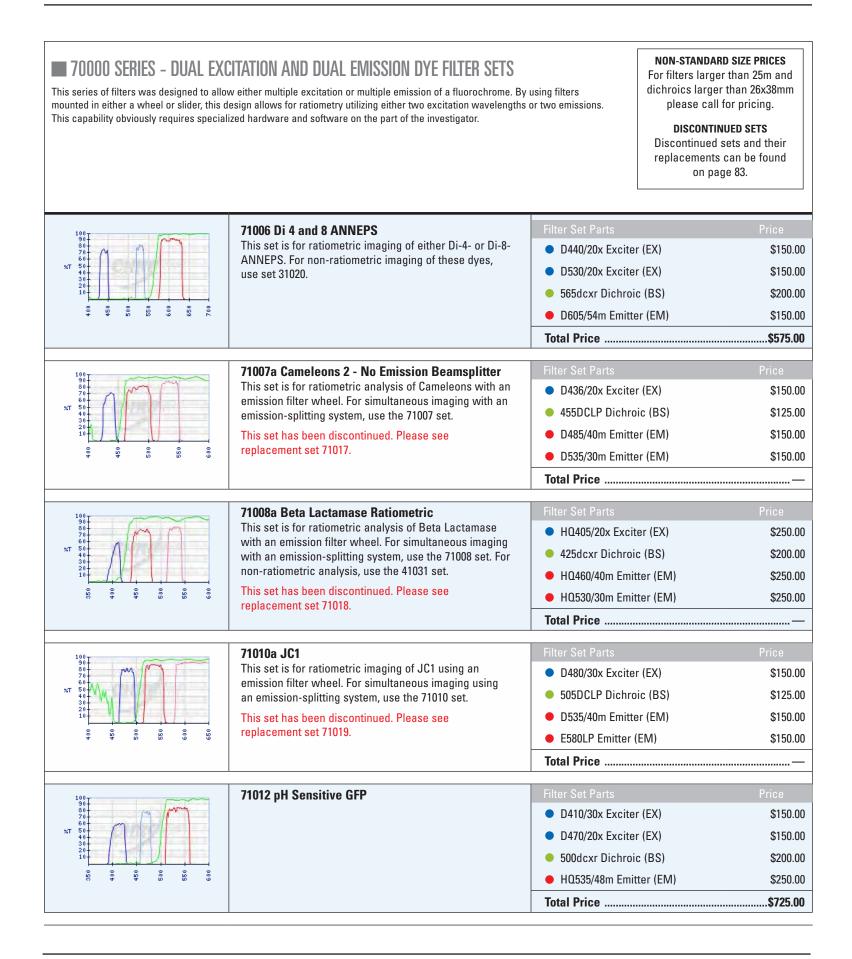
## 69308 CFP/YFP/mCherry with single band exciters - ET

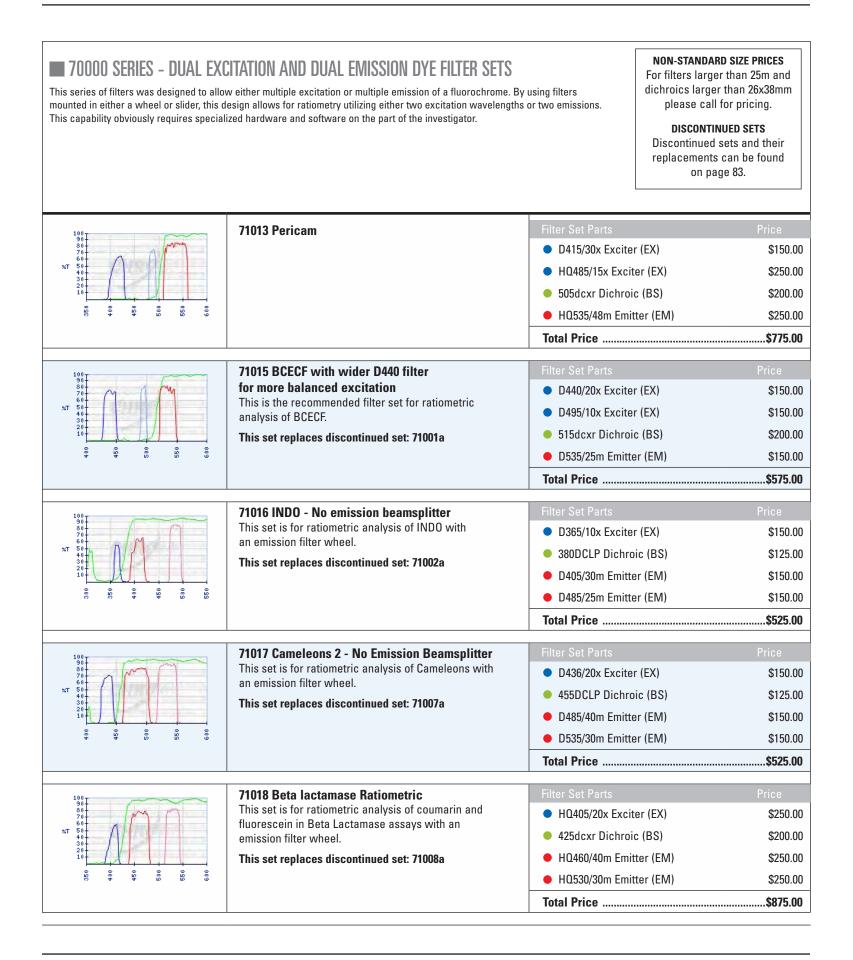
Please see the Excitation Intensity Note on page 82 for information on how to avoid rapid photobleaching of sample.

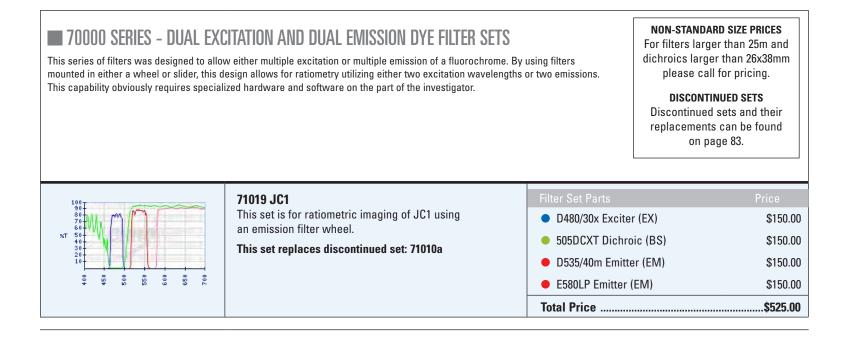
Filter Set Parts	Price
ET430/24x Exciter (EX)	\$325.00
• ET500/20x Exciter (EX)	\$325.00
• ET577/25x Exciter (EX)	\$325.00
69008bs Dichroic (BS)	\$350.00
• 69008m Emitter (EM)	\$400.00
Total Price	\$1450.00

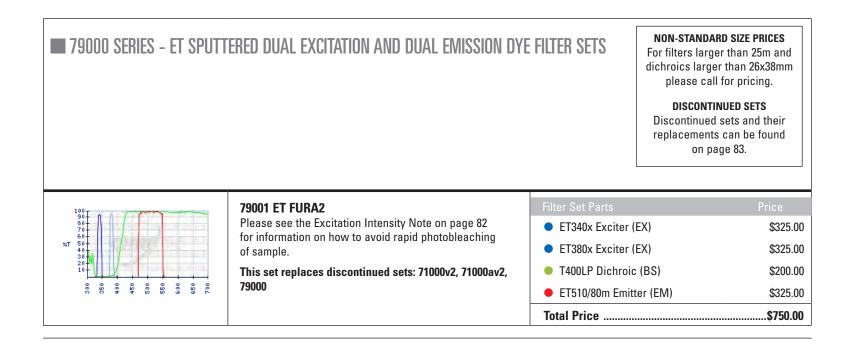












# 80000 SERIES - MULTI-BAND FILTER SETS WITH SINGLE EMITTERS AND MULTIPLE EXCITERS

Originally designed for Comparative Genomic Hybridization the filter sets in this series, like those in the 51 and 61 series have become important in a wide variety of applications. The factors common to each of the 80 series filter sets is the use of a multiband beamsplitter and emission filter combination which remain stable in the body of the fluorescence microscope. The use of a stable beamsplitter and emission filter guarantees registration of the various images. The single, and sometimes multi-band excitation filters are mounted in a filter wheel or a filter slider. By changing excitation filters one seeks to excite each fluorochrome in succession, capturing a single image and combining those images with the help of imaging software. There can be some bleeding of one fluorochrome into the image of a shorter wavelength fluorochrome. This is sometimes inevitable, as is the case with Propidium lodide and FITC.

NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

DISCONTINUED SETS

	<b>81000v2 Pinkel #1 Filter Set</b> Note that in multi-labeled samples the AT350/50x exciter may excite multiple fluorochromes resulting in potential crosstalk when the triple-emission filter is used.	Filter Set Parts <ul> <li>81102x Exciter (EX)</li> <li>AT350/50x Exciter (EX)</li> <li>S403/12x Exciter (EX)</li> <li>S492/18x Exciter (EX)</li> <li>S572/23x Exciter (EX)</li> <li>81100bs Dichroic (BS)</li> <li>81101m Emitter (EM)</li> </ul> Total Price	Price \$250.00 \$150.00 \$175.00 \$175.00 \$175.00 \$400.00 \$325.00
T T T T T T T T T T	<b>82000v2 DAPI/FITC/TRITC or Cy3</b> This set is spectrally equivalent to the 86013 set but with a multiband emission filter. Note that in multi-labeled samples the AT350/50x exciter may excite multiple fluorochromes resulting in potential crosstalk when the triple-emission filter is used.	Filter Set Parts <ul> <li>82102x Exciter (EX)</li> <li>82103x Exciter (EX)</li> <li>AT350/50x Exciter (EX)</li> <li>S395/10x Exciter (EX)</li> <li>S484/15x Exciter (EX)</li> <li>S555/25x Exciter (EX)</li> <li>82100bs Dichroic (BS)</li> <li>82101m Emitter (EM)</li> </ul> Total Price	Price \$250.00 \$300.00 \$150.00 \$175.00 \$175.00 \$175.00 \$400.00 \$325.00
xT 500 00 00 00 00 00 00 00 00 00 00 00 00	82700 Supplementary Emission Filters for 82000 Filter Set Using these in lieu of the triple-emission filter will result in the inability to visualize the samples by eye when using an external filter wheel. This set is no longer a catalog item, but is available by special request.	Filter Set Parts <ul> <li>S457/17m Emitter (EM)</li> <li>S517/30m Emitter (EM)</li> <li>S605/40m Emitter (EM)</li> </ul> Total Price	Price \$200.00 \$200.00 \$200.00 \$550.00

## ■ 80000 SERIES – MULTI-BAND FILTER SETS WITH SINGLE EMITTERS AND MULTIPLE EXCITERS

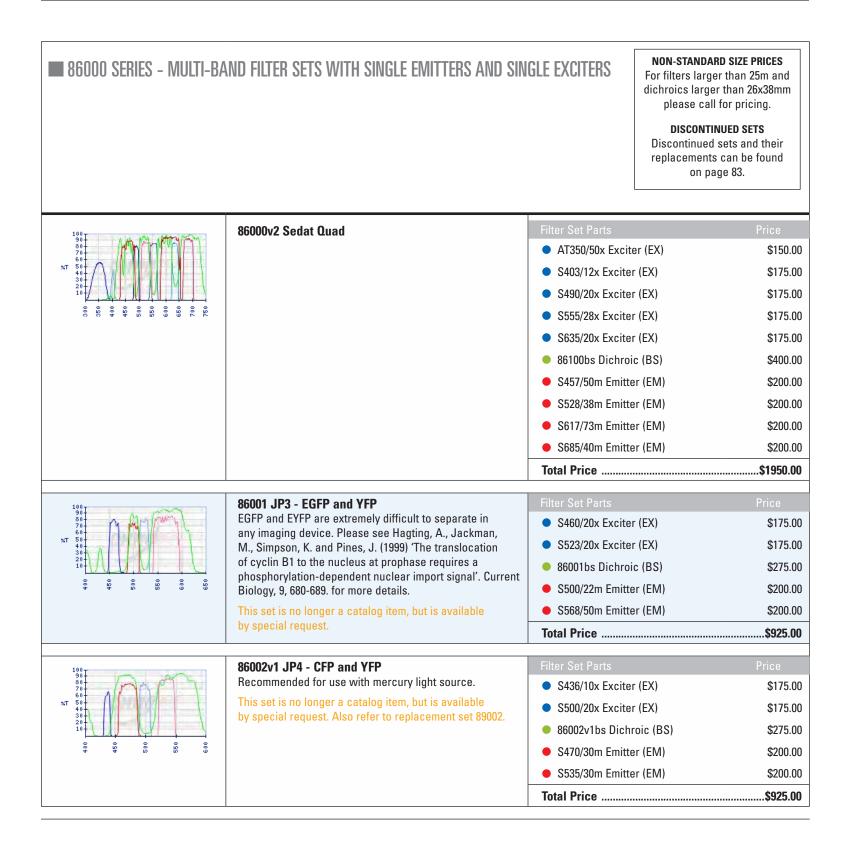
Originally designed for Comparative Genomic Hybridization the filter sets in this series, like those in the 51 and 61 series have become important in a wide variety of applications. The factors common to each of the 80 series filter sets is the use of a multiband beamsplitter and emission filter combination which remain stable in the body of the fluorescence microscope. The use of a stable beamsplitter and emission filter guarantees registration of the various images. The single, and sometimes multi-band excitation filters are mounted in a filter wheel or a filter slider. By changing excitation filters one seeks to excite each fluorochrome in succession, capturing a single image and combining those images with the help of imaging software. There can be some bleeding of one fluorochrome into the image of a shorter wavelength fluorochrome. This is sometimes inevitable, as is the case with Propidium lodide and FITC.

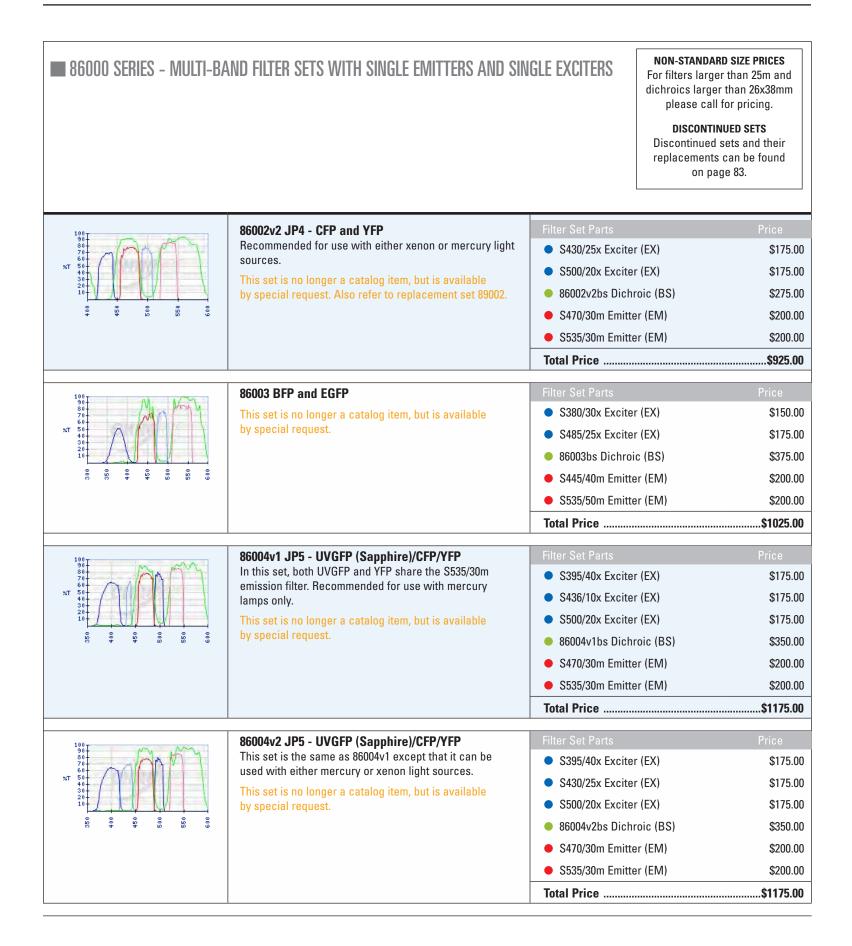
NON-STANDARD SIZE PRICES

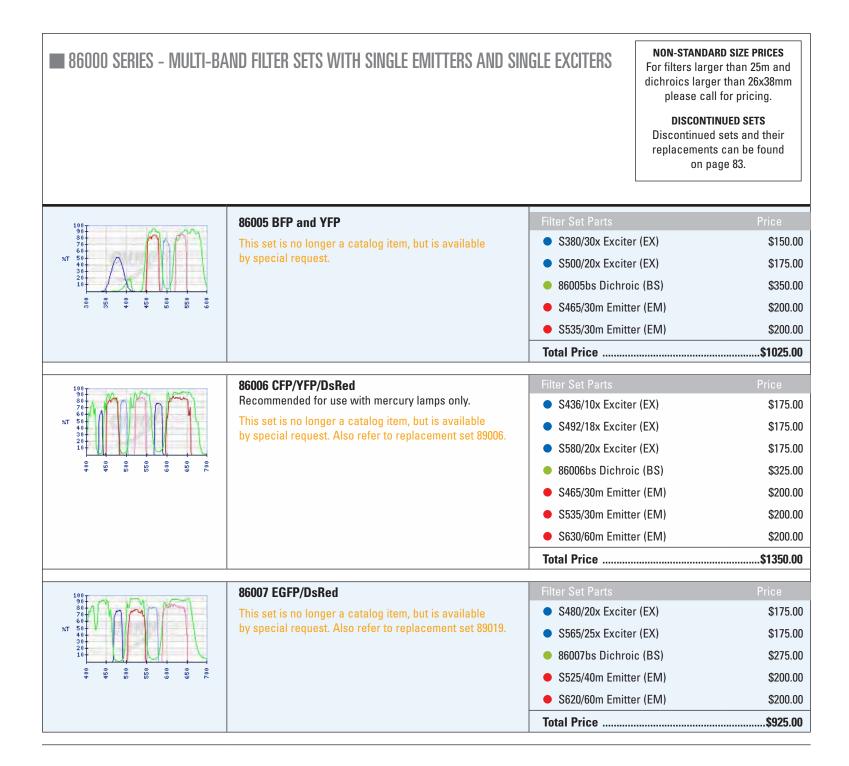
For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

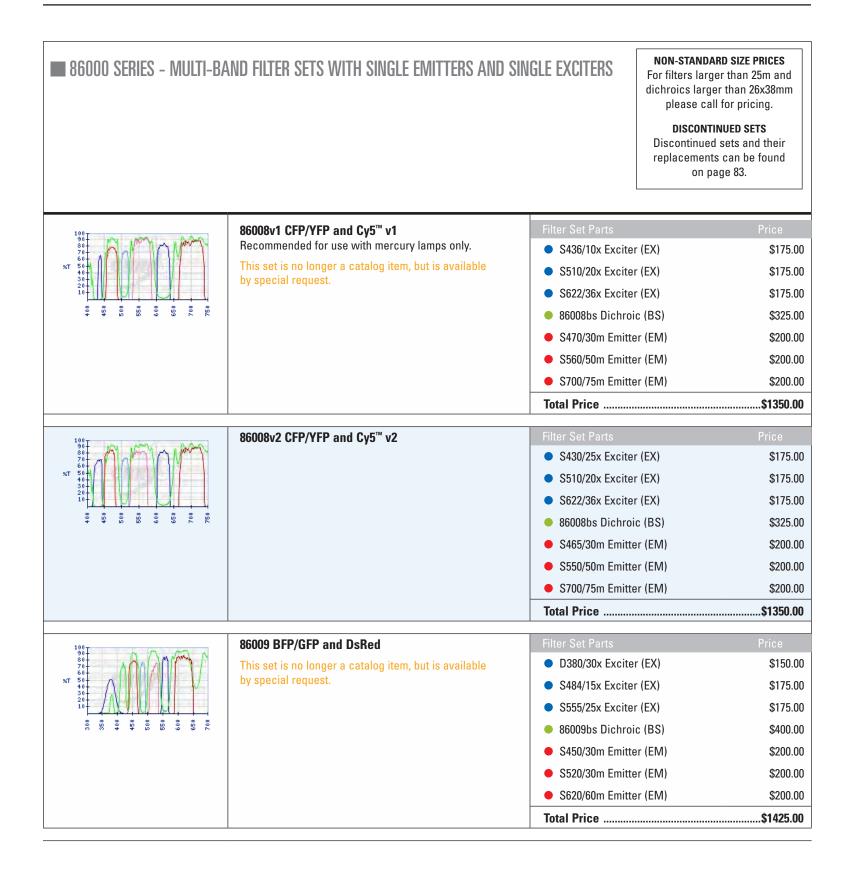
DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.

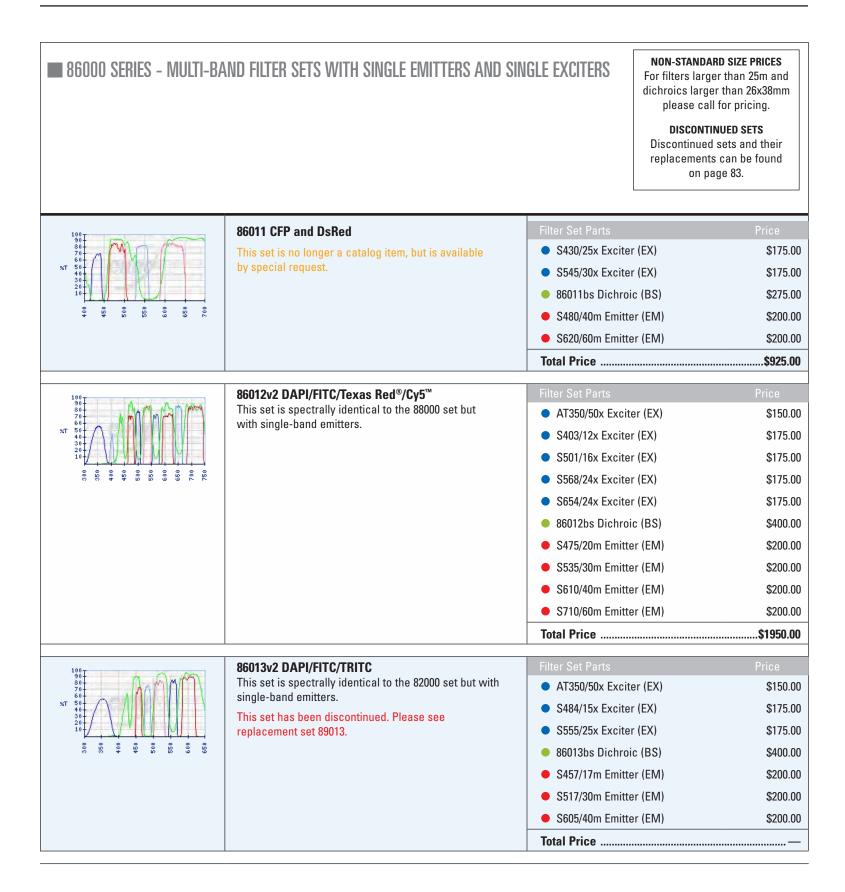
	<b>83000v2 DAPI/FITC/Texas Red®</b> This set is spectrally equivalent to the 86014 set but with a multiband emission filter. Note that in multi-labeled samples the AT350/50x exciter may excite multiple fluorochromes resulting in potential crosstalk with the triple-emission filter is used.	Filter Set Parts             83102x Exciter (EX)              83103x Exciter (EX)              AT350/50x Exciter (EX)             S403/12x Exciter (EX)             S403/12x Exciter (EX)             S492/18x Exciter (EX)             S572/23x Exciter (EX)             83100bs Dichroic (BS)             83101m Emitter (EM)	Price \$250.00 \$300.00 \$150.00 \$175.00 \$175.00 \$175.00 \$400.00 \$325.00
xT 50 00 00 00 00 00 00 00 00 00	83700 Supplementary Emission Filters for 83000 Filter Set Using these in lieu of the triple-emission filter will result in the inability to visualize the samples by eye when using an external filter wheel. This set is no longer a catalog item, but is available by special request.	Filter Set Parts <ul> <li>S460/36m Emitter (EM)</li> <li>S530/35m Emitter (EM)</li> <li>S630/60m Emitter (EM)</li> </ul> Total Price	Price \$200.00 \$200.00 \$200.00
T T T T T T T T T T T T T T T T T T T	<b>84000v2 DAPI/FITC/TRITC/Cy5 Quad</b> This set is spectrally equivalent to the 86000 set but with a quad emitter. Note that in multi-labeled samples the AT350/50x exciter may excite multiple fluorochromes resulting in potential crosstalk when the quad emission filter is used.	Filter Set Parts <ul> <li>AT350/50x Exciter (EX)</li> <li>S403/12x Exciter (EX)</li> <li>S490/20x Exciter (EX)</li> <li>S555/28x Exciter (EX)</li> <li>S635/20x Exciter (EX)</li> <li>84100bs Dichroic (BS)</li> <li>84101m Emitter (EM)</li> </ul> Total Price	Price \$150.00 \$175.00 \$175.00 \$175.00 \$175.00 \$400.00 \$375.00

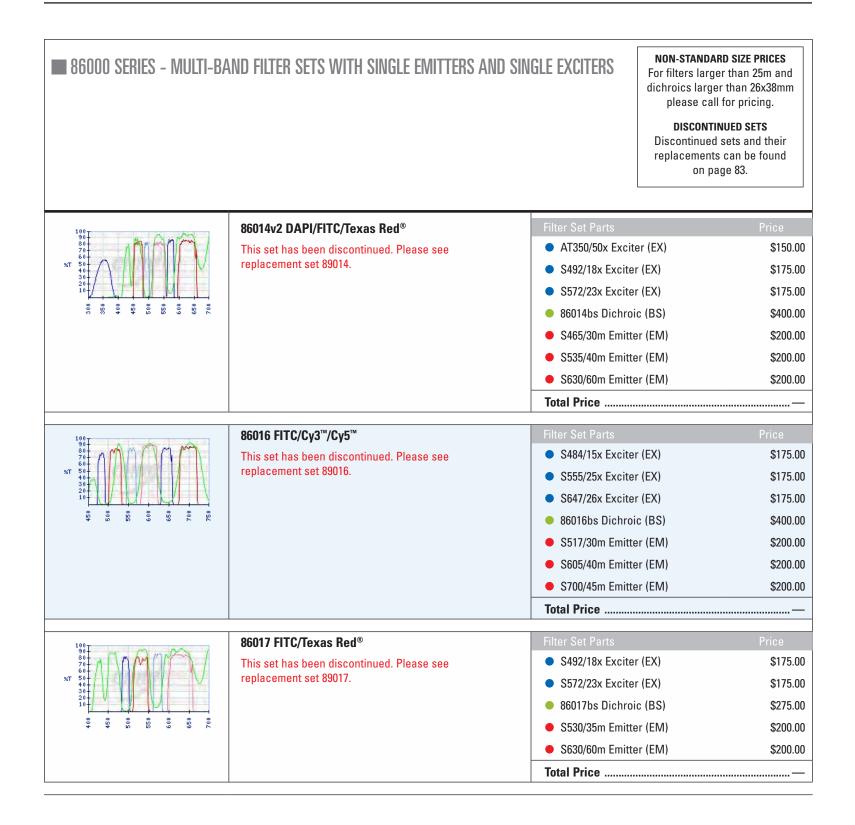












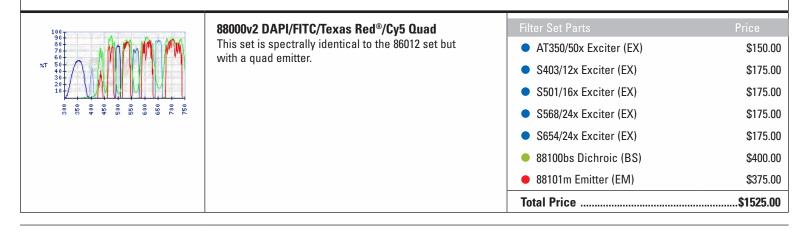


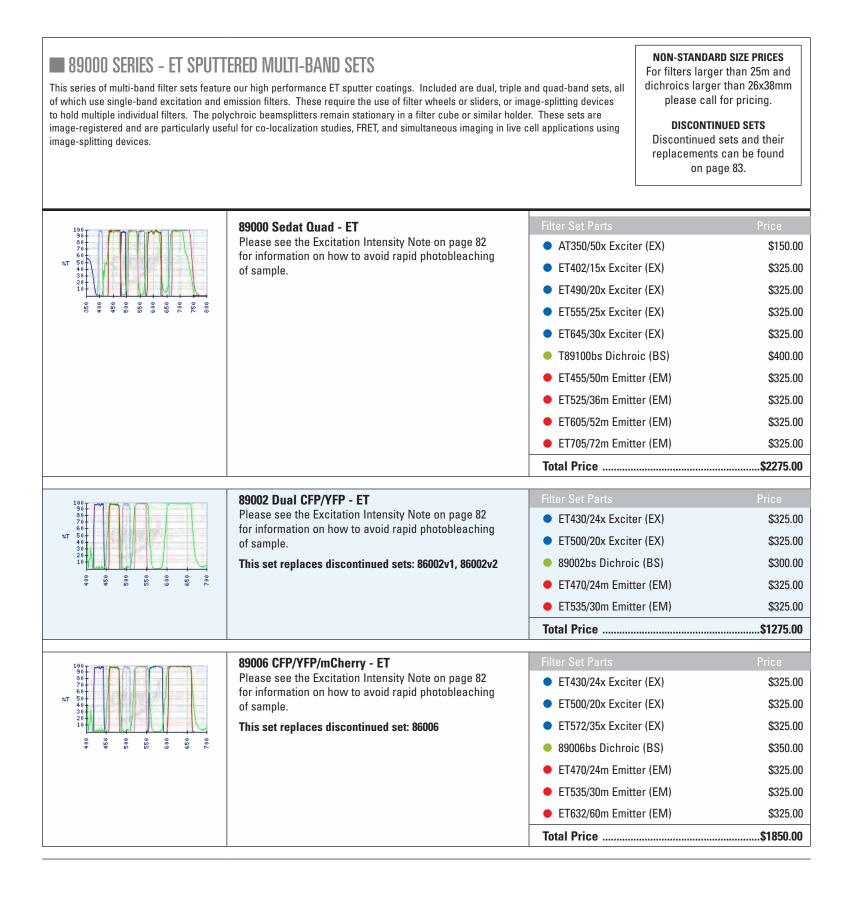
### ■ 88000 SERIES – QUAD FILTER SET WITH SINGLE BAND EXCITERS

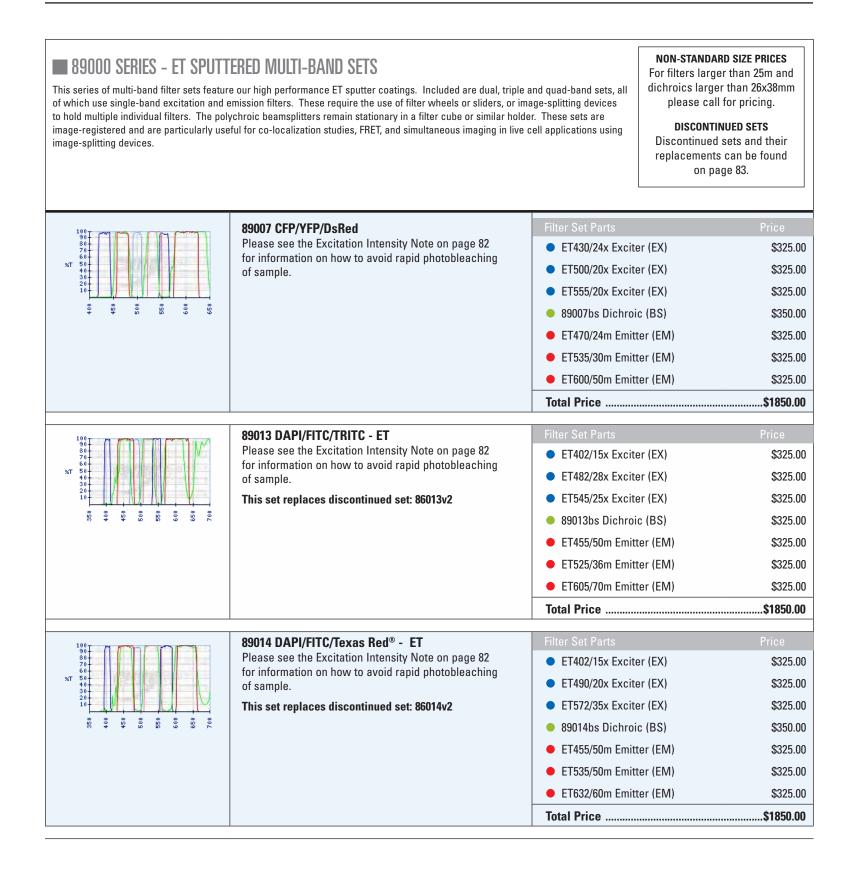
Originally designed for Comparative Genomic Hybridization the filter sets in this series, like those in the 51 and 61 series have become important in a wide variety of applications. The factors common to each of the 80 series filter sets is the use of a multiband beamsplitter and emission filter combination which remain stable in the body of the fluorescence microscope. The use of a stable beamsplitter and emission filter guarantees registration of the various images. The single, and sometimes multi-band excitation filters are mounted in a filter wheel or a filter slider. By changing excitation filters one seeks to excite each fluorochrome in succession, capturing a single image and combining those images with the help of imaging software. There can be some bleeding of one fluorochrome into the image of a shorter wavelength fluorochrome. This is sometimes inevitable, as is the case with Propidium lodide and FITC. NON-STANDARD SIZE PRICES

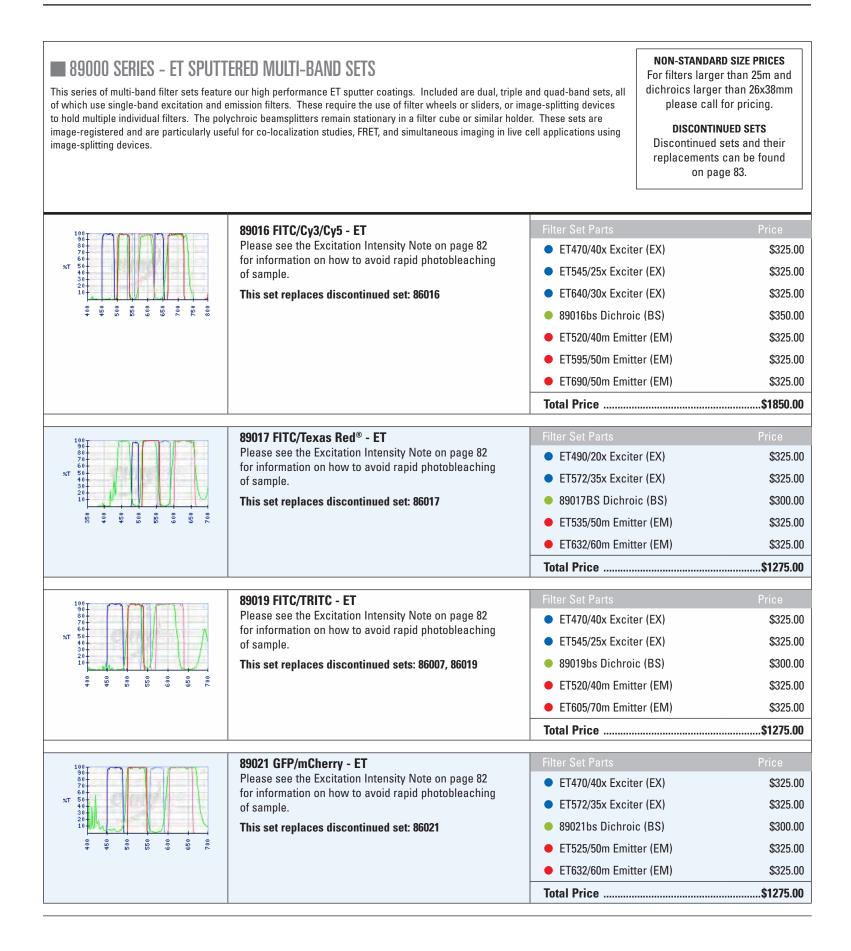
For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

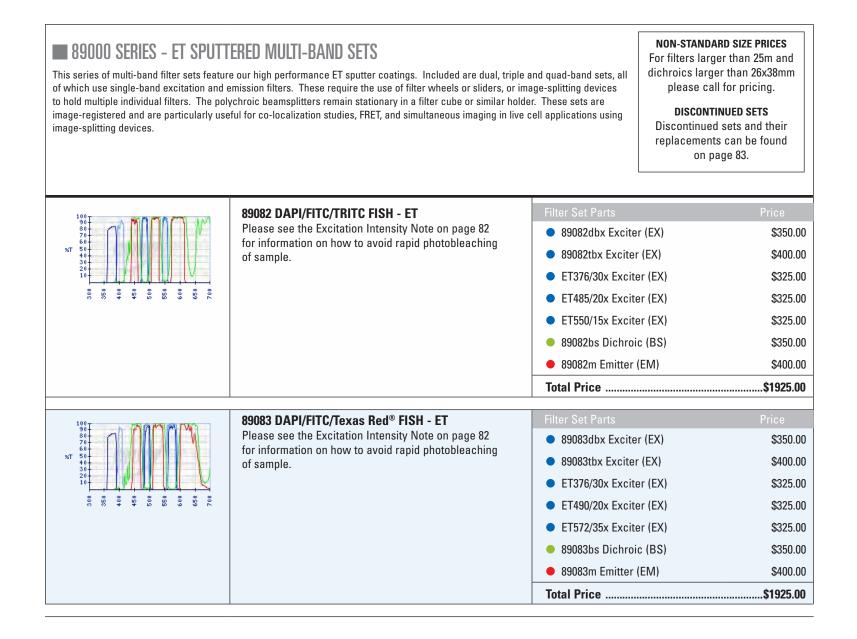
#### DISCONTINUED SETS











used fluorescence microscopes. Chron Microsystems. Both Carl Zeiss and Niko dealers and distributors have access to	S (CUBES & RINGS) ase from the microscope manufacturer cubes that are designed for mos na Technology Corp produces many standard filter sets and a few custor on Corp. offer extensive selections of our filter sets for their new microso our products through Olympus America and directly from us. We encou n purchasing filter sets manufactured by us.	m designs for Leica cope models. Olympus	NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.
	<b>91000 18mm Nikon Microscopes (Diaphot, TMD)</b> **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$150.00
	<b>91001 Nikon Eclipse/Quadfluor</b> This metal cube is also compatible with Nikon's E400, E600, E800 and E1000 upright microscopes, as well as the TE200 and TE300 inverted Eclipse microscopes. Please note that this Eclipse/Quadfluor cube is NOT intended for use in Nikon's Eclipse TE2000 or Tl2000 microscopes and should not be confused with the 91020 cube. Users should also note that early versions of Diaphot microscopes used our 91000 (18mm) cubes, but many have been converted in order to be consistent with all later Diaphot models, which use this 91001 cube. Please contact your Nikon dealer to purchase this cube empty, or mounted with the following Chroma filter sets: 11000, 11001, 11003, 11004, 11007, 31000, 31001, 31002a, 31004, 31021, 31044, 41001, 40112c, 41004, 41007a, 41008, 41017, 41018, 41025, 41028, 51000, 51004v2, 51006, 61000v2, 61002 **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$382.00
	<b>91002 Olympus BH2</b> **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$275.00
	<b>91003 Olympus IMT2 Filter Cube</b> **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$250.00

91000 SERIES - HOLDERS (CUBES & RINGS) We either manufacture locally or purchase from the microscope manufacturer cubes that are designed for most of the currently used fluorescence microscopes. Chroma Technology Corp produces many standard filter sets and a few custom designs for Leica Microsystems. Both Carl Zeiss and Nikon Corp. offer extensive selections of our filter sets for their new microscope models. Olympus dealers and distributors have access to our products through Olympus America and directly from us. We encourage you to work with your local dealer or representative when purchasing filter sets manufactured by us.			NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.
	<b>91004 Leica Ploempak</b> **Recommend installation at Chroma to ensure proper gluing and alignment. However, Chroma can only align Ploem cubes with 3 screws. Those with 4 screws must be sent to Leica.	Total Price	\$350.00
	<b>91005 Leica Aristoplan Filter Cube</b> **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$400.00
	91006 Zeiss Axioline 3FL Slider	Total Price	\$800.00
	<b>91007 Leica DM Filter Cube</b> **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$350.00
	<b>91009 Leica DMIRB Filter Cube</b> **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$350.00
	91011 Zeiss Axioline 4FL Slider	Total Price	\$1100.00

91000 SERIES – HOLDERS We either manufacture locally or purchas used fluorescence microscopes. Chroma Microsystems. Both Carl Zeiss and Nikon dealers and distributors have access to o your local dealer or representative when	NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.		
	91012 Zeiss Axioline 5FL Slider	Total Price	\$1200.00
	91013 Zeiss Axioline 6FL Slider	Total Price	\$1500.00
	91014 Zeiss Standard 2FL Slider	Total Price	\$600.00
	91015 Zeiss Axio Screws into turret	Total Price	\$275.00
	91016 for Zeiss Axio 2 DISCONTINUED - See 91029	Total Price	\$999.00
	<b>91017 Olympus CK40</b> **Recommend installation at Chroma to ensure proper gluing.	Total Price	\$400.00

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used fluorescence microscopes. Chrom Microsystems. Both Carl Zeiss and Nikor dealers and distributors have access to	<b>5 (CUBES &amp; RINGS)</b> se from the microscope manufacturer cubes that are designed for most a Technology Corp produces many standard filter sets and a few custor n Corp. offer extensive selections of our filter sets for their new microsco our products through Olympus America and directly from us. We encou a purchasing filter sets manufactured by us.	n designs for Leica ope models. Olympus	NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.
	91018 BX2 (U-MF2) for Olympus BX and IX models	Total Price	\$420.00
	<b>91019 Nikon SMZ Stereo</b> **Recommend installation at Chroma to ensure proper gluing.	Total Price	\$834.00
	<b>91020 Nikon TE2000/TI2000</b> This plastic cube is also made for use in several of the 50i, 80i and 90i upright microscopes. Please note that this cube is intended for the Eclipse TE/TI2000 microscopes and should NOT be confused with Chroma's 91001 Eclipse/ Quafluor cube. Please contact your Nikon dealer to purchase this cube empty, or mounted with the following Chroma filter sets: 11000, 11001, 11002, 11004, 11007, 31000, 31001, 31002a, 31004, 31021, 31044v2, 41001, 41002c, 41004, 41007a, 41008, 41017, 41018, 41028, 49000, 49001, 49002, 49003, 49005, 49006, 49007, 49008, 51000, 51004v2, 51006, 61000v2, 61002	Total Price	\$382.00
86	91022 Olympus SZX RFL3 emission holder	Total Price	\$220.00
	91023 Olympus SZX RFL3 excitation holder	Total Price	\$130.00

used fluorescence microscopes. Chrom Microsystems. Both Carl Zeiss and Niko dealers and distributors have access to	<b>B</b> (CUBES & RINGS) se from the microscope manufacturer cubes that are designed for mos a Technology Corp produces many standard filter sets and a few custor of Corp. offer extensive selections of our filter sets for their new microsc our products through Olympus America and directly from us. We encou a purchasing filter sets manufactured by us.	m designs for Leica cope models. Olympus	NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.
	91024 Leica DM 2500, 3000, 4000, 5000, 6000 **Recommend installation at Chroma to ensure proper gluing and alignment.	Total Price	\$350.00
	<b>91026 Nikon prism-to-dichroic conversion mount</b> This is not a holder for standard fluorescence filters. This is a custom modification to take the place of the bottom prism position in the TE2000. Note that the manufacturers warn that removing the original prism may void warranty.	Total Price	\$500.00
	91027 Zeiss Axio inverted 2F	Total Price	\$812.00
	91029 Zeiss Axio Imager with tilted emission filter	Total Price	\$195.00
	<b>91030 Olympus XL</b> This cube requires larger filters - please call for pricing.	Total Price	\$375.00



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91000 SERIES – HOLDERS We either manufacture locally or purchas used fluorescence microscopes. Chroma Microsystems. Both Carl Zeiss and Nikon dealers and distributors have access to o your local dealer or representative when	NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.		
O	91037 Zeiss Axio Filter Retaining Ring 25mm (for all cubes and sliders)	Total Price\$20	
	91038 BX3 for Olympus BX3 fluorescence illuminators This cube is designed to be inserted or removed from the filter turret without the need for tools. Currently supported illuminators include BX3-RFAS, BX3-URA and BX3-RFAA	Total Price	\$420.00

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92000 SERIES - DIAGNOS	TIC TOOLS		NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.
	92000 Fluoro4 Control Slide Set	Total Price	\$220.00
CHROMA	<b>92001 Autofluorescent Plastic Slides</b> These are intended to determine the consistency and evenness of illumination of excitation light on a fluorescent sample. However, we cannot make any guarantees about the substances these slides are manufactured with, nor what their emission properties are. Because we do not alter or dictate the materials used in their construction, we are unable to support them in any fashion beyond making them available. They can also be obtained at the many trade shows and conferences we attend.	Total Price	\$7.50

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<b>GGLES FOR MACRO VIEWING</b> s emission glass built in to allow macro viewing of whole animals.		NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing. DISCONTINUED SETS Discontinued sets and their replacements can be found on page 83.
<b>G-515GFP Goggles</b> For use with a blue excitation source. Goggles are OG515, 3mm thick, image quality, 50mm diameter.	Total Price	\$250.00
<b>G-570RFP Goggles</b> For use with a blue or green excitation source. Goggles are OG570, 3mm thick, image quality, 50mm diameter.	Total Price	\$250.00
<b>G-590RFP Goggles</b> For use with a blue, green or yellow excitation source. Goggles are OG590, 3mm thick, image quality, 50mm diameter.	Total Price	\$250.00

# MF100 - FILTER SETS FOR MULTI-COLOR FISH (SPEC'D BY PERCEPTIVE SCIENTIFIC FOR VYSIS FLUOROCHROMES)

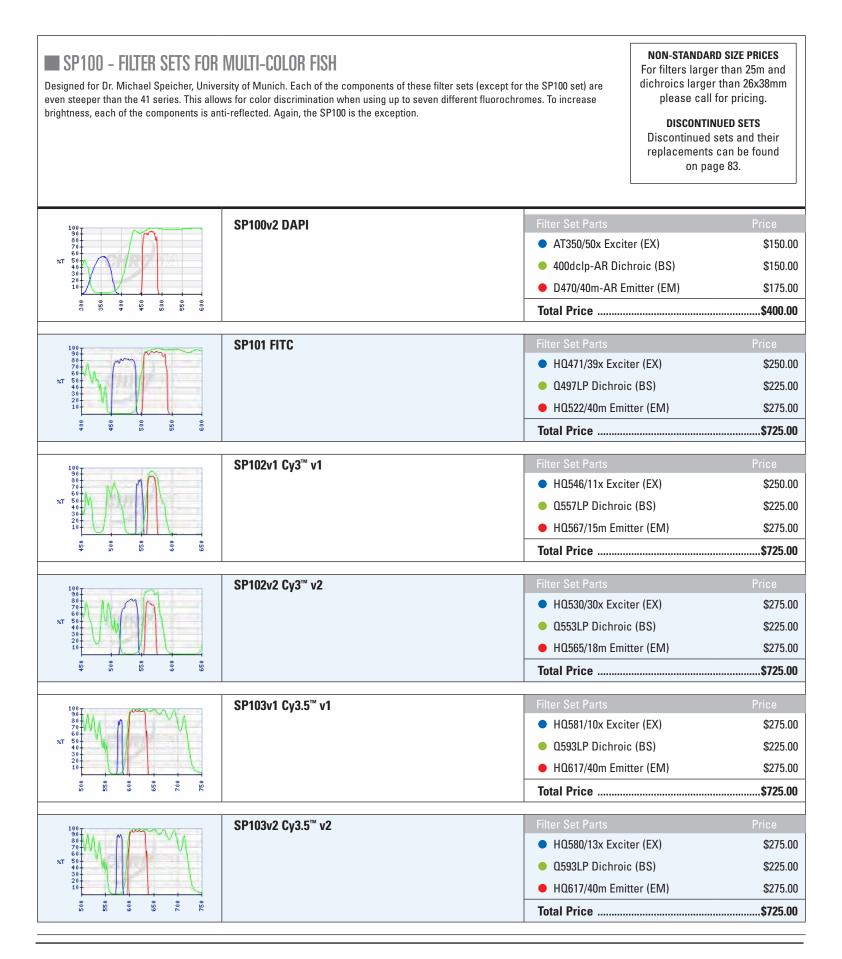
Specified by Perceptive Scientific for use with Vysis fluorochromes. Please contact Vysis for the official Vysis M-FISH filter sets.

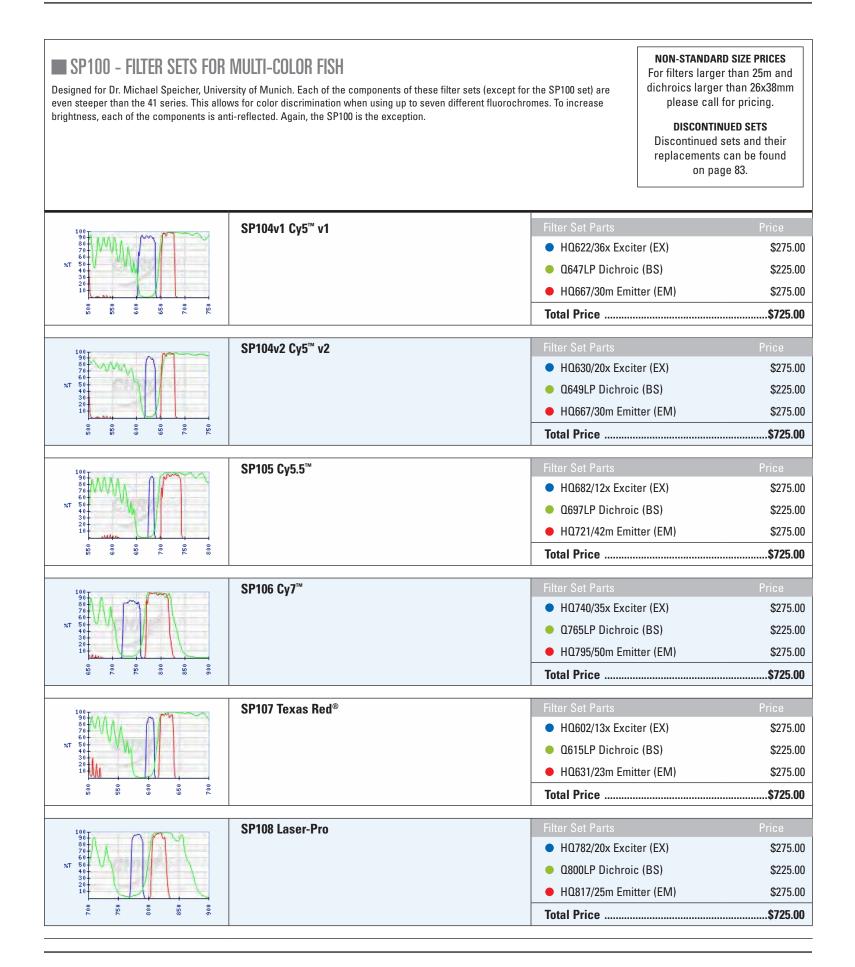
NON-STANDARD SIZE PRICES For filters larger than 25m and dichroics larger than 26x38mm please call for pricing.

#### DISCONTINUED SETS

Discontinued sets and their replacements can be found on page 83.

TT 100 00 00 00 00 00 00 00 00 0	MF101 Spectrum Green™	Filter Set Parts <ul> <li>HQ493/16x Exciter (EX)</li> <li>Q507LP Dichroic (BS)</li> <li>HQ527/30m Emitter (EM)</li> </ul> Total Price	Price \$275.00 \$200.00 \$275.00
	MF102 Spectrum Orange™	Filter Set Parts <ul> <li>HQ548/20x Exciter (EX)</li> <li>Q565LP-AR Dichroic (BS)</li> <li>HQ580/14m Emitter (EM)</li> </ul> Total Price	Price \$275.00 \$175.00 \$275.00 \$725.00





#### LASER APPLICATIONS

Standard epifluorescence exciters and mirrors do not work with laser applications. Laser optics require special consideration, particularly for clean up filters and mirrors. To request that we put together a combination for your specific application, please email laser@chroma.com, confocal@chroma.com or call 800-824-7662 with the following information:

- type of microscope (confocal, epifluorescence, tirf...)
- brand of microscope
- laser type (plasma, diode, HeNe, Krypton/Argon mix, Ti:Sapphire...)
- fluorochrome to be used

#### ABSORPTION GLASS

Please specify thickness (e.g. 1 mm, 2 mm, 3 mm) when ordering. Absorption characteristics are thickness-dependent. Thinner pieces transmit higher and block lower, while thicker pieces transmit lower and block higher.

UV PROTECTION — Longpass glass

PART NUMBER	IMAGE QUALITY (25 mm or less)	IMAGE QUALITY (26 mm - 50 mm)	NON-IMAGE QUALITY (25 mm or less)	NON-IMAGE QUALITY (26 mm - 50 mm)
GG400	50.00	75.00	25.00	50.00
GG420	50.00	75.00	25.00	50.00
GG435	50.00	75.00	25.00	50.00
GG455	50.00	75.00	25.00	50.00
GG475	50.00	75.00	25.00	50.00
GG495	50.00	75.00	25.00	50.00
OG515	50.00	75.00	25.00	50.00
OG530	50.00	75.00	25.00	50.00
OG550	50.00	75.00	25.00	50.00
OG570	50.00	75.00	25.00	50.00
OG590	50.00	75.00	25.00	50.00
RG610	50.00	75.00	25.00	50.00
RG630	50.00	75.00	25.00	50.00
RG645	50.00	75.00	25.00	50.00
RG665	50.00	75.00	25.00	50.00
RG695	50.00	75.00	25.00	50.00
RG715	50.00	75.00	25.00	50.00
RG780	50.00	75.00	25.00	50.00
RG830	50.00	75.00	25.00	50.00

#### IR PROTECTION — SHORTPASS GLASS

PART NUMBER	IMAGE QUALITY (25 mm or less)	IMAGE QUALITY (26 mm - 50 mm)	NON-IMAGE QUALITY (25 mm or less)	NON-IMAGE QUALITY (26 mm - 50 mm)
KG1	50.00	75.00	25.00	50.00
KG3	50.00	75.00	25.00	50.00
KG5	50.00	75.00	25.00	50.00

#### ${\tt UV TRANSMISSION-Shortpass \ Glass}$

PART NUMBER	(25 mm or less)	(26 mm - 50 mm)	
UG11	75.00	125.00	

## **EXCITATION INTENSITY NOTE:**

#### How to Avoid Rapid Photobleaching of Sample.

High levels of excitation light intensity (such as that transmitted by our ET-series excitation filters) could, under some circumstances, lead to rapid photobleaching or phototoxic damage to the sample, and/or high levels of autofluorescent signal.

The use of neutral density (ND) filters in the excitation light path may be required to minimize these effects. Furthermore, the use of a range of multiple ND filters can allow for application- or sample-specific customization of excitation light intensities to maximize signal-to-noise.

See the 22000 Series. Page 10.

ТҮРЕ	DISCONTINUED AND SPECIAL ORDER SETS	RECOMMENDED SET	SEE PAGE
Discontinued	31006 Allophycocyanin (APC)	See replacement set 41013.	Page 25
Discontinued	31007 Quinacrine Mustard	See replacement set 31010.	Page 14
Discontinued	31016 Hydroxycoumarin	See replacement set 49021.	Page 34
Discontinued	31017 Chlorophyll Bandpass Emission	See replacement set 41046.	Page 30
Discontinued	31017a Chlorophyll Longpass Emission	See replacement set 41046.	Page 30
Discontinued	31018 NBD / HPTS	Contact us for a recommended replacement.	
Discontinued	31019 GFP	Contact us for a recommended replacement.	
Discontinued	31021 Blue GFP Bandpass Emission	See replacement set 49021.	Page 34
Discontinued	31024 DiA	See replacement set 31020.	Page 15
Discontinued	31026 Narrow-band GFP for eliminating auto-fluorescence	See replacement set 41020.	Page 27
Special Order	31028 CTC	Available by special request or contact us for	
		a recommended replacement.	
pecial Order	31036v2 DEAC	Available by special request or see replacement set .	
iscontinued	31046 Red	See replacement set 41034.	Page 29
iscontinued	31047v2 Coumarin	See replacement set 49021.	Page 34
)iscontinued	31052 Cyan/Topaz Energy Transfer	See replacement set 49052.	Page 35
Discontinued	31056 DHE	Contact us for a recommended replacement.	
Special Order	31062v2 Fast Red	Available by special request or contact us for	
		a recommended replacement.	
Special Order	32000 GFP Bandpass Emission	Available by special request or contact us for	
		a recommended replacement.	
liscontinued	32001 GFP Longpass Emission	Contact us for a recommended replacement.	
liscontinued	32018 Qdot 850 filter set with 20 nm wide emission	Contact us for a recommended replacement.	
Discontinued	32020 Qdot 800	Contact us for a recommended replacement.	
Discontinued	32204 Adirondack Green	Contact us for a recommended replacement.	
Discontinued	32208 Hops Yellow	Contact us for a recommended replacement.	
Discontinued	32210 Birch Yellow	Contact us for a recommended replacement.	
Discontinued	32212 Fort Orange	Contact us for a recommended replacement.	
Discontinued	32216 Rome Red	Contact us for a recommended replacement.	
Discontinued	32218 Empire Red	Contact us for a recommended replacement.	
Discontinued	32220 Macoun Red	Contact us for a recommended replacement.	
)iscontinued	32222 Jonamac Red	Contact us for a recommended replacement.	
liscontinued	41002 TRITC (Rhodamine)/Dil/Cy3™	See replacement set 41007.	Page 24
Discontinued	41002a TRITC (Rhodamine)/Dil with red-shifted emission filter	See replacement set 49005.	Page 32
Discontinued	41003 R and B Phycoerythrin Hg light source	See replacement set 49010.	Page 33
Discontinued	41006 Ethidium Bromide	See replacement set 41007.	Page 24
Discontinued	41009 Cy7™	See replacement set 49007.	Page 33
Discontinued	41010 Resorufin	See replacement set 41034.	Page 29
Special Order	41015 wtGFP Longpass Emission	Available by special request or contact us for a recommended replacement.	
Special Order	41019 Visual Cy5™ (GLF)	Available by special request or see replacement set 41013.	Page 25
Special Order	41022 Cy5.5 <sup>™</sup> (Red Shifted)	Available by special request or see replacement set 41023.	Page 27
pecial Order	41027 Calcium Crimson™	Available by special request or see replacement set 41034.	Page 29
pecial Order	41029 Yellow GFP LP (10/C Topaz)	Available by special request or see replacement set 49029.	Page 34
Discontinued	41030 Indo-Cyanine Green	See replacement set 49030.	Page 34
Discontinued	41033 Narrow Excitation Cy5™	See replacement set 49009.	Page 33
Special Order	41035 Narrow Excitation (Hg) DsRed	Available by special request or contact us for a recommended replacement.	
		· · ·	
Discontinued	41037 Li-Cor for IR Dye 800	See replacement set 49037.	Page 34

ТҮРЕ	DISCONTINUED AND SPECIAL ORDER SETS	RECOMMENDED SET	SEE PAGE
Special Order	42001 AmCyan1	Available by special request or contact us for a recommended replacement.	
Special Order	42002 ZsGreen1	Available by special request or contact us for a recommended replacement.	
Special Order	42003 ZsYellow1	Available by special request or contact us for a recommended replacement.	
Special Order	42004 AsRed2	Available by special request or contact us for a recommended replacement.	
Discontinued	43000 BioPixels w/Longpass Emission Filter	Contact us for a recommended replacement.	
Discontinued	43001 BioPixels 485	Contact us for a recommended replacement.	
Discontinued	43002 BioPixels 520	Contact us for a recommended replacement.	
Discontinued	43003 BioPixels 570	Contact us for a recommended replacement.	
Discontinued	43004 BioPixels 595	Contact us for a recommended replacement.	
Discontinued	43005 BioPixels 620	Contact us for a recommended replacement.	
Discontinued	51002 DAPI/Propidium lodide	See replacement set 51003.	Page 36
Special Order	51004v2 FITC/TRITC	Available by special request or see replacement set 59004.	Page 42
Discontinued	51005 FITC/Propidium Iodide	See replacement set 51006.	Page 37
Special Order	51007 Cy3 <sup>™</sup> /Cy5 <sup>™</sup>	Available by special request or contact us for a recommended replacement.	
Special Order	51008 FITC/Cy5™	Available by special request or contact us for a recommended replacement.	
Discontinued	51010 DAPI/Chlorophyll	Contact us for a recommended replacement.	
Special Order	51011 DAPI/Cγ3™	Available by special request or contact us for a recommended replacement.	
Special Order	51012 DAPI/GFP	Available by special request or contact us for a recommended replacement.	
Special Order	51013 DAPI/Cy5™	Available by special request or contact us for a recommended replacement.	
Discontinued	51014 BFP/GFP	Contact us for a recommended replacement.	
Special Order	51015 FITC/Dil	Available by special request or contact us for a recommended replacement.	
Special Order	51016 Lucifer Yellow/Rhodamine or Dil	Available by special request or contact us for a recommended replacement.	
Special Order	51017 CFP/YFP	Available by special request or see replacement set 59017.	Page 42
Special Order	51019 EGFP/DsRed	Available by special request or see replacement set 59004.	Page 42
Special Order	52004v2 FITC/TRITC W/Single Band Exciters	Available by special request or see replacement set 59204.	Page 42
Special Order	52005 FITC/PI W/Single Band Exciters	Available by special request or see replacement set 59222.	Page 43
Special Order	52006 FITC/Texas Red <sup>®</sup> W/Single Band Exciters	Available by special request or see replacement set 59222.	Page 43
Special Order	52017 CFP/YFP with Single-Band Exciters	Available by special request or see replacement set 59217.	Page 42
Special Order	52018 CFP/DsRed with Single-Band Exciters	Available by special request or contact us for a recommended replacement.	
Special Order	52019 EGFP/DsRed with Single-Band Exciters	Available by special request or see replacement set .	
Special Order	61000v2 DAPI/FITC/TRITC or Cy3	Available by special request or see replacement set 69000.	Page 47

TYPE	DISCONTINUED AND SPECIAL ORDER SETS	RECOMMENDED SET	SEE PAGE
Special Order	61001 DAPI/FITC/Propidium lodide	Available by special request or see replacement set 69002.	Page 47
Special Order	61002 DAPI/FITC/Texas Red®	Available by special request or see replacement set 69002.	Page 47
Special Order	61003 DAPI/FITC/Cy5™	Available by special request or contact us for a recommended replacement.	
Special Order	61004 DAPI/Cy3 <sup>™</sup> /Cy5 <sup>™</sup>	Available by special request or contact us for a recommended replacement.	
Special Order	61005 FITC/Cy3 <sup>™</sup> /Cy5 <sup>™</sup>	Available by special request or contact us for a recommended replacement.	
Special Order	61006 FITC/Texas Red <sup>®</sup> /Cy5 <sup>™</sup>	Available by special request or contact us for a recommended replacement.	
Special Order	61008 CFP/YFP/DsRed	Available by special request or see replacement set 69008.	Page 47
Special Order	61009 CFP/YFP/Cy5™	Available by special request or contact us for a recommended replacement.	
Special Order	61010 DAPI/FITC/Cy3™	Available by special request or see replacement set .	
Special Order	62000v3 DAPI/FITC/TRITC or Cy3 with single band exciters	Available by special request or see replacement set 69300.	Page 47
Special Order	62001 DAPI/FITC/Propidium Iodide	Available by special request or see replacement set 69302.	Page 47
Special Order	62002v2 DAPI/FITC/Texas Red <sup>®</sup> w/single-band exciters	Available by special request or see replacement set 69302.	Page 47
Discontinued	62007 Aqua/Gold/Far Red w/single band exciters	Contact us for a recommended replacement.	
Discontinued	71000av2 Fura 2 with wide band emission filter. See set# 79001	See replacement set 79001.	Page 54
Discontinued	71000v2 Fura 2. See set# 79001	See replacement set 79001.	Page 54
Discontinued	71001 BCECF	Contact us for a recommended replacement.	
Discontinued	71001a BCECF with wider D440 filter for more balanced excitation	See replacement set 71015.	Page 52
Discontinued	71002 INDO	Contact us for a recommended replacement.	
Discontinued	71002a INDO - No emission beamsplitter	See replacement set 71016.	Page 52
Special Order	71003 Fura Red	Available by special request or contact us for a recommended replacement.	
Discontinued	71007 Cameleons 2	Contact us for a recommended replacement.	
Discontinued	71007a Cameleons 2 - No Emission Beamsplitter	See replacement set 71017.	Page 52
Discontinued	71008 Beta Lactamase Ratiometric	Contact us for a recommended replacement.	
Discontinued	71008a Beta Lactamase Ratiometric	See replacement set 71018.	Page 52
Discontinued	71009 LS/P Cyan/Topaz Dual Excitation	Contact us for a recommended replacement.	
Discontinued	71010 JC1	Contact us for a recommended replacement.	
Discontinued	71010a JC1	See replacement set 71019.	Page 53
Discontinued	71011 Sapphire/Topaz Dual Excitation	Contact us for a recommended replacement.	
Discontinued	71014 Qdot Multiple Emission Set	Contact us for a recommended replacement.	
Discontinued	72000v2 FURA 2 and BCECF	Contact us for a recommended replacement.	
Discontinued	73000v2 FURA 2 and Rhodamine	Contact us for a recommended replacement.	
Discontinued	74000v2 FURA 2 and Fluo 3	Contact us for a recommended replacement.	
Special Order	82700 Supplementary Emission Filters for 82000 Filter Set	Available by special request or contact us for a recommended replacement.	

TYPE	DISCONTINUED AND SPECIAL ORDER SETS	RECOMMENDED SET	SEE PAGE
Special Order	83700 Supplementary Emission Filters for 83000 Filter Set	Available by special request or contact us for a recommended replacement.	
Special Order	86001 JP3 - EGFP and YFP	Available by special request or contact us for a recommended replacement.	
Special Order	86002v1 JP4 - CFP and YFP	Available by special request or see replacement set 89002.	Page 65
Special Order	86002v2 JP4 - CFP and YFP	Available by special request or see replacement set 89002.	Page 65
Special Order	86003 BFP and EGFP	Available by special request or contact us for a recommended replacement.	
Special Order	86004v1 JP5 - UVGFP (Sapphire)/CFP/YFP	Available by special request or contact us for a recommended replacement.	
Special Order	86004v2 JP5 - UVGFP (Sapphire)/CFP/YFP	Available by special request or contact us for a recommended replacement.	
Special Order	86005 BFP and YFP	Available by special request or contact us for a recommended replacement.	
Special Order	86006 CFP/YFP/DsRed	Available by special request or see replacement set 89006.	Page 65
Special Order	86007 EGFP/DsRed	Available by special request or see replacement set 89019.	Page 67
Special Order	86008v1 CFP/YFP and Cy5 <sup>™</sup> v1	Available by special request or contact us for a recommended replacement.	
Special Order	86009 BFP/GFP and DsRed	Available by special request or contact us for a recommended replacement.	
Discontinued	86010 BFP (or DAPI)/CFP/YFP and DsRed (or Texas Red®)	Contact us for a recommended replacement.	
Special Order	86011 CFP and DsRed	Available by special request or contact us for a recommended replacement.	
Discontinued	86013v2 DAPI/FITC/TRITC	See replacement set 89013.	Page 66
Discontinued	86014v2 DAPI/FITC/Texas Red®	See replacement set 89014.	Page 66
Discontinued	86015 UV/Sapp.GFP/DsRed	Contact us for a recommended replacement.	
Discontinued	86016 FITC/Cy3 <sup>™</sup> /Cy5 <sup>™</sup>	See replacement set 89016.	Page 67
Discontinued	86017 FITC/Texas Red®	See replacement set 89017.	Page 67
Discontinued	86018 FITC/Cy3™	Contact us for a recommended replacement.	
Discontinued	86019 FITC/TRITC v2	See replacement set 89019.	Page 67
Discontinued	86020 FITC/Texas Red®/Cy5	Contact us for a recommended replacement.	
Discontinued	86021 GFP/mRFP1	See replacement set 89021.	Page 67
Discontinued	86022 Cy3/Cy5	Contact us for a recommended replacement.	
Discontinued	86023 FITC/Cy5	Contact us for a recommended replacement.	
Discontinued	86024 ISO/EGFP	Contact us for a recommended replacement.	
Discontinued	86025 YFP/DsRed	Contact us for a recommended replacement.	
Discontinued	86026 YFP/Texas Red®	Contact us for a recommended replacement.	



### **FLUOROCHROME LIST**

FLUOROCHROME	EXCITATION	EMISSION	RECOMMENDED SET	ALTERNATIVE SETS
5-(and 6)-carboxy-2',7'-dichlorofluorescein	512	530	49011	49002
Acridine Orange + DNA	500	526	49002	49012
Alexa Fluor 350™	346	442	49000	31000v2
Alexa Fluor 488™	498	520	49011	41001, 49002
Alexa Fluor 514™	517	539	49003	41028
Alexa Fluor 532™	531	554	49010	41011
Alexa Fluor 546™	556	573	49004	41002b
Alexa Fluor 555™	553	568	49004	41002b
Alexa Fluor 568™	578	603	49008	41021
Alexa Fluor 594™	590	617	49008	41004
Alexa Fluor 633™	632	647	49009	41019
Alexa Fluor 647™	649	666	49006	49009
Alexa Fluor 700™	696	719	49007	41023
Alexa Fluor 750™	752	779	49007	41009
Alexa Fluor 790™	782	805	49037	
Allophycocyanin (APC)	630	660	49006	41008
AmCyan	458	489	49001	
AsRed2	576	592	49005	
Azami Green	492	505	49002	41001
BODIPY FL/pH7.2	505	512	49011	49002
Calcein	494	517	49011	49012
Calcium Green™-1	506	531	49011	49002
Calcofluor White	355	440	11000v3	11005v2
Carboxyrhodamine 6G	518	543	41011	49012
Cerulean	433	475	49001	
CFP	433	475	49001	
Cy2™	489	506	49011	49002
Су3.5™	581	598	41021	
СуЗ™	552	570	49004	49005
Cy5.5™	675	695	49007	
Cy5™	649	670	49006	49009
Су7™	743	767	49007	49009
DAPI	359	461	49000	
Di-8-ANEPPS non-ratiometric	530	620	31020	
DiA	456	591	31024	
DiD	644	665	49006	
Dil	549	565	49005	49004
DiO	484	502	49011	
DiR	748	780	49007	41009
Draq5	647	683	49006	41008
DsRed2	563	582	49005	49004
DyLight 350	352	435	49000	31000v2
DyLight 405	399	433	49021	31016
DyLight 488	492	517	49011	41001
DyLight 549	554	569	49004	41002b
DyLight 594	592	616	49008	41004
DyLight 633	623	645	41019	49006
DyLight 649	652	667	49006	41008
Dyright 040	032	007	7000	00017

## **FLUOROCHROME LIST**

FLUOROCHROME	EXCITATION	EMISSION	RECOMMENDED SET	ALTERNATIVE SETS
DyLight 680	677	705	41022	41023
DyLight 750	751	772	49037	41009
DyLight 800	770	795	49037	41037
EBFP2	385	448	49021	
EGFP	488	507	49002	49011
Emerald GFP	489	510	49002	41017
Eosin	524	545	41011	
Ethidium Bromide	510	595	41007	
Ethidium homidimer-1/DNA	527	617	41007	
EYFP/pH 7	514	527	49003	41028
FAM	492	518	49011	49002
FITC	490	525	49011	49002
FIAsH-CCPFCC	511	530	49003	41028
Fluo-3	505	526	49011	49002
Fluo-4	494	516	49011	49002
Fura Red/Ca2+ - saturated	436	655	71003	
Fura Red/Ca2+ -free	473	670	71003	
Fura-2/Ca2+ - free	340	510	79000	
Fura-2/Ca2+ - saturated	380	510	79000	
GFP	488	507	49002	
HEX,SE	533	559	49010	41011
Hoechst 33258	352	461	49000	
Indocyanine Green	002	101	49030	
JC-1 non-ratiometric			49012	41012
JC-1 ratiometric			71019	11012
JOE	520	548	41011	
Lucifer Yellow	428	540	31010	
LysoTracker Blue/MeOH	373	425	49000	
LysoTracker Green/pH 5.2	504	511	49002	
LysoTracker Red/pH 5.2	577	590	49008	
LysoTracker Yellow HCK-123	465	535	49004	
mCherry	587	610	49008	
mCitrine	514	529	49003	
MitoTracker Deep Red 633/MeOH	644	665	49008	
MitoTracker Green FM/MeOH	490	516	49002	
MitoTracker Orange/MeOH	551	576	49005	
mKate (TagFP635)	588	635	49008	41043
mK0	548	559	49010	1010
mOrange	438	562	49010	
mRFP1	584	607	49008	
mWasabi	493	509	49002	41017
NBD X/MeOH	493	538	31018	
Nile Blue	631	660	49006	
Oregon Green <sup>™</sup> 488	490	514	49000	49002
Oregon Green <sup>™</sup> 514	490 506	514		40002
Pacific Blue			49003	
	405	455	31037	
Propidium Iodide	536	617	41005	
Qdot 525	350	525	32010	

## **FLUOROCHROME LIST**

FLUOROCHROME	EXCITATION	EMISSION	RECOMMENDED SET	ALTERNATIVE SETS
Qdot 545	350	545	32206	
Qdot 565	350	565	32009	
Qdot 585	350	585	32008	
Qdot 605	350	605	32007	
Qdot 625 streptavidin/pH 7.2	351	606	32214	
Qdot 655	350	655	32012	
Qdot 705	350	705	32015	
Qdot 800	350	800	32021	
R-phycoerythrin	565	578	49010	
ReAsH-CCPGCC	592	606	49008	
Resorufin	571	585	41010	49005
Rhod-2	540	576	49004	49005
Rhodamine 123	507	529	49003	41011
Rhodamine 6G	525	555	41034	
Rhodamine Red <sup>™</sup> -X	570	590	49008	
ROX	578	604	49008	41004
SBFI/Na+ -free	340	505	79000	
SBFI/Na+ -saturated	380	505	79000	
Sulforhodamine 101	586	605	49008	
SYBR® Green I	498	522	49002	49011
SYTO 9/DNA	483	500	49002	49011
SYTO <sup>®</sup> 60	652	678	49006	
TagBFP	402	457	49021	
TagRFP	556	584	49004	41002b
TAMRA	555	580	49004	49005
tdTomato	554	581	49005	49004
TET	521	536	41011	
Tetramethylrhodamine goat anti-mouse IgG antibody/	555	580	49004	49005
Texas Red <sup>®</sup>	595	620	49008	
Texas Red <sup>®</sup> -X	595	615	49008	
TO-PRO <sup>™</sup> -3	642	661	49006	
wtGFP	475	509	49002	
X-rhod-1/Ca2+	580	601	49008	
ZsGreen1	493	505	49002	
ZsYellow	529	539	41011	







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