ODiate® Fluorescence Filter Sets

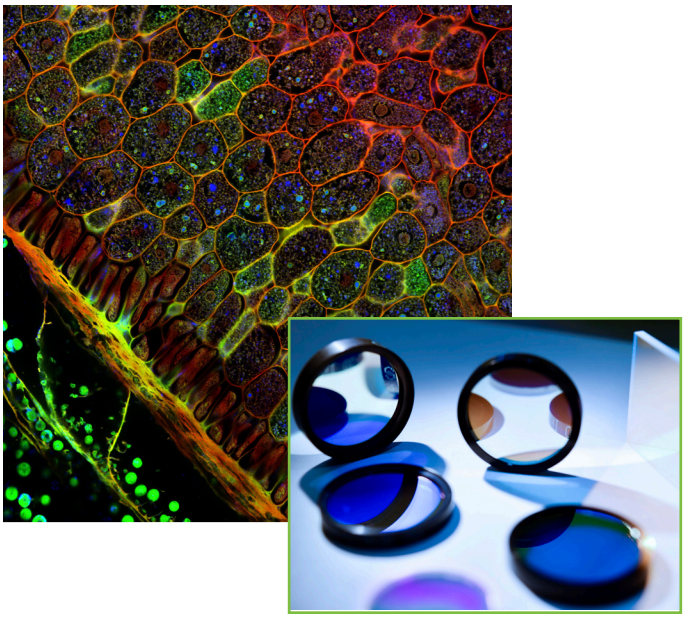
Precision Filters for Health and Fluorescence Imaging

mks | Newport

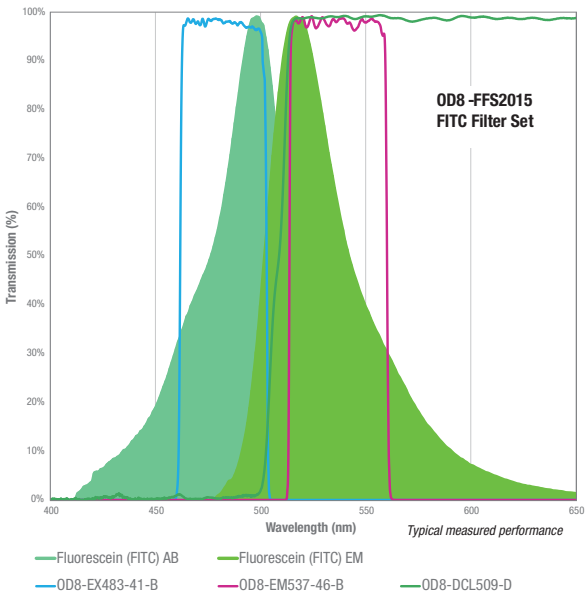
ODiate® Fluorescence Filter Sets have been spectrally optimized to enhance signal quality, improve system sensitivity, and enable imaging throughput tailored to key fluorescence chemistries.

Manufactured using advanced thin-film deposition systems ensures optical filters achieve excellent transmission and reflection accuracy. ODiate filter specifications are verified utilizing commercial spectrophotometric tools in addition to Newport's proprietary custom in-house tools to measure edge steepness resolution, and deep blocking to optical density 8 [$-\log_{10}(T)$].

Discover how ODiate fluorescence filters can differentiate the performance of your life and health science applications, medical instrumentation, and chemical or material analyses.



Available Fluorescence	
DAPI	Cy3™
CFP	TRITC
GFP	TexasRed / mCherry
FITC	Cy5™
YFP	



Applications

- Fluorescence Microscopy & Imaging
- High Throughput Screening
- Medical Diagnostics & Instrumentation
- Analytical Instruments

Performance Advantages

- High Transmission % / High Reflection %
- Deep Optical Density / Verified to OD8
- Steep Edges Aligned to Fluorophores
- Low Crosstalk Between Channels

Fluorophore	Filter Set	Excitation Filter	Emission Filter	Dichroic Beamsplitter
DAPI	OD8-FFS2005	OD8-EX380-59-B	OD8-EM450-64-B	OD8-DCL414-D
CFP	OD8-FFS2035	OD8-EX437-30-B	OD8-EM482-41-B	OD8-DCL457-D
GFP	OD8-FFS2010	OD8-EX474-37-B	OD8-EM523-41-B	OD8-DCL498-D
FITC	OD8-FFS2015	OD8-EX483-41-B	OD8-EM537-46-B	OD8-DCL509-D
YFP	OD8-FFS2040	OD8-EX503-29-B	OD8-EM542-30-B	OD8-DCL523-D
Cy3™	OD8-FFS2045	OD8-EX535-40-B	OD8-EM593-54-B	OD8-DCL561-D
TRITC	OD8-FFS2020	OD8-EX539-31-B	OD8-EM593-54-B	OD8-DCL561-D
TexasRed / mCherry	OD8-FFS2025	OD8-EX565-49-B	OD8-EM629-52-B	OD8-DCL596-D
Cy5™	OD8-FFS2030	OD8-EX626-52-B	OD8-EM693-56-B	OD8-DCL659-D

Individual filter & set specifications available online. Standard microscopy sizes. Contact Newport to customize sizes.

Excitation & Emission Common Specifications

Optical	
Part Numbering	CWL & FWHM [nominal]
Transmission	T_{avg} ≥ 96% over passband
Blocking	OD_{avg} ≥ 6 out of band, 300 – 900 nm OD_{avg} ≥ 10 over corresponding EX/EM passband (verified to OD8 avg as a paired set) OD_{abs} ≥ 4 EX/EM crossover OD_{avg} ≥ 3 over 900 – 1100 nm
Angle of Incidence Cone Half Angle	0° – 5° < 7°
Transmitted Wavefront Error	≤ 1 wave PV @ 632.8 nm
Parallelism	≤ 10 arcseconds

Mechanical	
Housed Diameter	25.0 mm +0.0/-0.1 mm
Substrate Thickness Ring Thickness	2.0 mm ± 0.1 mm 3.5 mm ± 0.1 mm
Scratch-Dig	60-40 over 21 mm Clear Aperture
Substrate Material	Schott BOROFLOAT® 33
Orientation Arrow	On Ring – Indicates Direction of Light Propagation
Part Number	Marked on edge of ring

Dichroic Beamsplitter Common Specifications

Optical	
Part Numbering	50% Edge [nominal]
Transmission	T_{avg} ≥ 96% over Emission passband T_{avg} ≥ 95% to 900 nm
Reflection	R_{avg} ≥ 98% 375 – Excitation passband R_{avg} ≥ 98% over Excitation passband
Angle of Incidence Cone Half Angle	45° ± 1.5° < 2°
Transmitted Wavefront Error	≤ 1 wave PV @ 632.8 nm
Parallelism	≤ 5 arcseconds

Mechanical	
Rectangular	25.2 x 35.6 mm ± 0.1 mm
Substrate Thickness	1.0 mm ± 0.1 mm
Scratch-Dig	60-40 over ≥ 80% Clear Aperture
Substrate Material	Fused Silica
Orientation Arrow	On Edge – Indicates Direction of Light Propagation
Part Number	Marked on edge of dichroic

Scan QR Code
for more information

www.newport.com

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