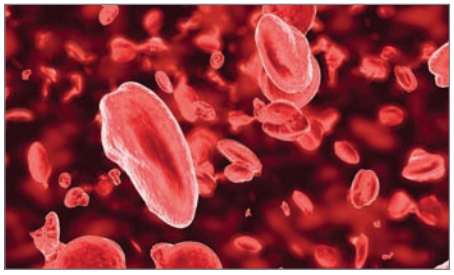
YOUR ONE STOP SHOP FOR BIOTECH RESEARCH & DEVELOPMENT

www.edmundoptics.com/biotech

Edmund Optics® offers a variety of innovative optical components and accessories for your most challenging biotech research, testing, inspection, and device development. With over 24,200 components immediately available, EO wants to be your preferred supplier for biotech solutions and technical support.

Products for a wide variety of **Biotech Applications**

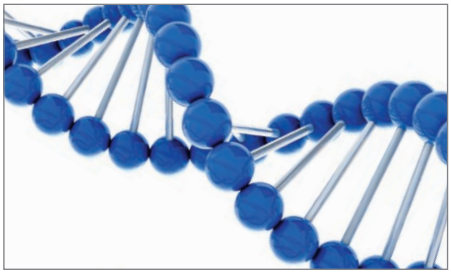


IN VITRO DIAGNOSTICS

EO's engineered, high-performance filters are designed to accommodate a number of laser and fluorescent detection channels in a wide variety of biotech and clinical instruments, such as blood analyzers and flow cytometers.

OPHTHALMOLOGY

EO's design team has developed custom optical solutions for applications ranging from diagnostic ophthalmology to iris scanning and detection. Precision molded or machined aspheres are ideal for many opthalmologic systems.



DNA SEQUENCING

EO's precision prisms, objectives, collection lenses and filters enable sensitive detection for fast gene expression and target quantification for genomic and proteomic applications.

MEDICAL IMAGING

Edmund Optics' broad line of imaging lenses offers great value for your medical imaging application. Our products are used in systems and applications where size and performance are essential, including dental imaging, flow cytometry, and biomedical device inspection.

LASER MEDICAL DEVICES

Increasingly, lasers are being integrated into many medical devices as efficient alternatives to more invasive approaches. Many procedures now rely on lasers and other precision optical components to increase system performance and decrease patient recovery times. EO provides the technical knowledge and wide laser optics selection to fulfill your laser application needs.

SPECTROSCOPY

From fluorescence to vibrational spectroscopy, our vast inventory of filters and lenses provides the perfect balance between the price you want and the performance you need. Our filters are tuned for specific wavelengths, providing a filter option for every application.

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EUROPE: 44 (0) 1904 788600 JAPAN: 81-3-5800-4751

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BIOTECH OPTICS – NEED A CUSTOM SOLUTION?

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Edmund Optics® experienced global manufacturing staff is ready to assemble your biotech instrument or device.

GLOBAL MANUFACTURING sites

United States - China - Singapore - Japan

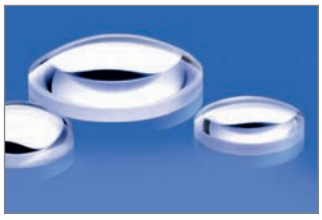
RECENT BIOTECH OPTICS PROJECTS

- Machined aspheres for diagnostic ophthalmology
- Small molded aspheres for bone density scanners
- Micro optics such as half-ball lenses for endoscopy devices
- Laser concentrators for hair and wrinkle removal
- Biometric iris recognition systems
- Micro video lenses for dental intra-oral cameras
- Collection optics such as aspherized achromats, filters, and objectives for flow cytometry
- Broadband lenses for fluorescence in DNA sequencing
- Sub-assembly systems for blood analysis

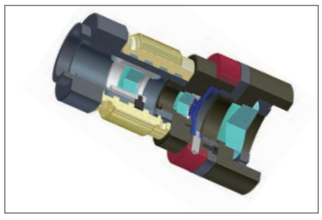
In addition to our standard line of biotech optics and accessories, EO's global network of manufacturing resources are available to design, prototype, and manufacture your biotech optic or assembly. EO has worked closely with the world's top biotech device manufacturers for over 15 years, producing a variety of solutions from precision molded aspheres for ophthalmic instruments to world-class prisms for dental imaging.

FROM DESIGN TO PROTOTYPE TO PRODUCTION

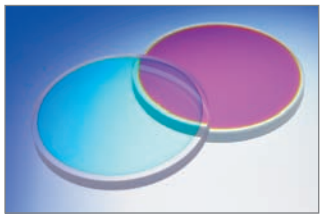
Precision Prisms are well suited for dental diagnostic imaging systems that demand maximum performance in confined spaces.



Precision Molded Glass Aspheres are ideal for devices such as bone density scanners.



Edmund Optics® provides custom designs for a variety of biotech applications.



High Optical Density Filters are critical components in fluorescence microscopy and spectrometry.

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STANDARD AND CUSTOM FILTERS SUPPORTING BIOTECH APPLICATIONS

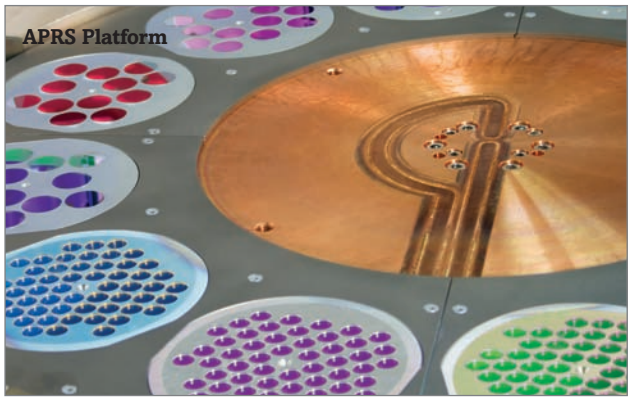
STANDARD AND CUSTOM FILTERS SUPPORTING BIOTECH APPLICATIONS

- High Transmission, Deep Blocking
- Over 1,600 Stock Designs
- Custom Filters Optimized for your Requirement

Advanced Coating Technology

Our Advanced Plasma Reactive Sputtering (APRS) platform offers the ability to deposit over 200 highly accurate, shift-free layers per single coating run. The process itself is high energy, allowing for a very stable and controlled deposition in comparison to other methods. The final coating is free of impurities and highly resistant to environmental damage. Because of its ability to create coatings that operate over an extremely large region of the wavelength spectrum, the APRS platform is ideal for deposition of custom filters of the most complex and demanding designs. Furthermore, its load-locked, high capacity structure results in very high throughput which increases the total number of coated elements per run and lowers the price per coated optic.

Optic Dimensions:	Up to 100mm sq or 100mm diameter
Clear Aperture Coated:	>95%
Substrates:	All glass types
Spectral Range:	400-2000nm
Edge Steepness (T50% to OD>4):	<0.5%
Spectral Edge Tolerance:	<1% deviation, <0.2% special cases
Passband Transmission:	>95% typical, >99% special cases
Number of Layers:	200+
Durability:	MIL-STD-810F: 10 day humidity MIL-C-48497A, Section 3.4.1
Bandpass:	5nm < FWHM > 50nm
Blocking:	Up to OD6; >OD7 by design

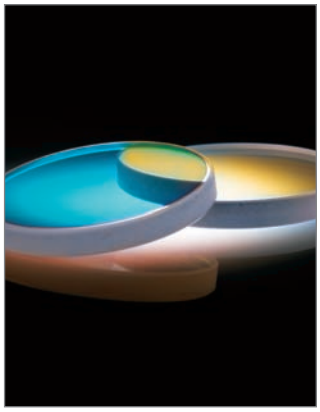


BANDPASS FILTERS

We are able to design and manufacture precision filters for the most demanding biomedical, laser, and defense applications. Typical specifications include fluorescence filters with optical densities >6.0, transmission >90%, and edge steepness (T50% to OD>4) of <0.5%.

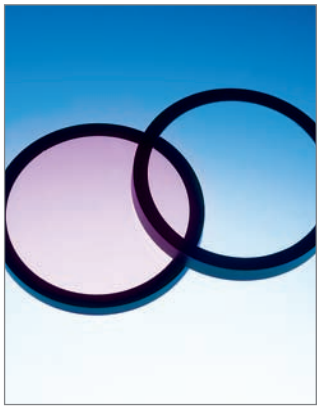
EDGE FILTERS

Precision Longpass and Shortpass filters can be designed for applications where specific wavelength ranges need to be isolated. These filters can be used in applications ranging from astronomy to Raman spectroscopy. Edge filters can be designed for wavelengths ranging from 400-2000nm with edge steepness (T50% to OD>4) of <0.5%. Optical densities >6 are available along with a transmission of >95% in the passband.



RUGATE NOTCH FILTERS

Our notch filters are created using the Rugate Method in order to ensure high transmission, low ripple and to eliminate the harmonics that are formed from the dielectric stack method. The rugate method is capable of producing filters with optical densities >6.0, transmission >95%, and bandwidth of <1.0% of the laser line. Multi-notch configurations are also available.



NEUTRAL DENSITY FILTERS

Neutral density filters can be designed to be spectrally flat across a broad range of wavelengths. These filters are ideal for applications such as spectroscopy, analytical chemistry or machine vision. Optical densities ranging from 0.3 to >4.0 can be designed for broad wavelength ranges.

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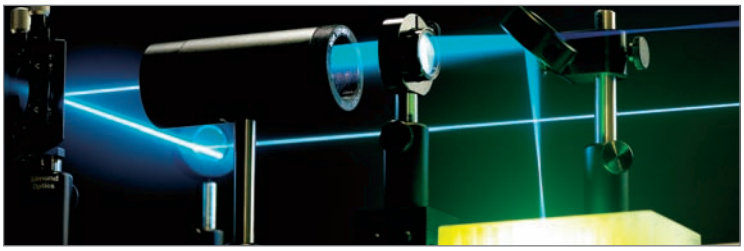
SAVE TIME AND MONEY WITH STOCK COMPONENTS



SAVE TIME AND MONEY WITH STOCK COMPONENTS

EO has thousands of imaging lenses for **Biotech Systems**

TELECENTIC LENSES

- Remove Perspective/ Parallax Errors
- Ideal for Gauging and Metrology Applications
- Magnifications Ranging from 0.08X to 10X

FIXED FOCAL & MICRO VIDEO LENSES

- Compact and Lightweight
- Commonly used for Robotics and Inspection
- Harsh Environment Versions for Demanding Applications

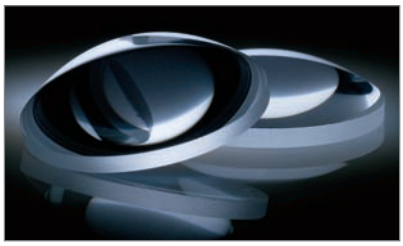
OBJECTIVE LENSES

- Sub-Micron Resolution
- Options for UV to NIR Wavelengths
- Magnifications of 2X to 200X

Maximize your system's performance with the **Right Optical Component**

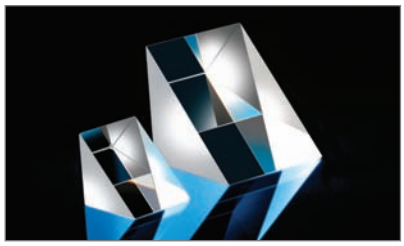
FLUORESCENCE BANDPASS FILTERS

- Common Wavelengths for Popular Fluorophores
- >93% Transmission
- >OD6 Blocking



UV ASPHERIC LENSES

- Reduces Spherical Aberrations
- UV, VIS or NIR Coating Options
- Full Prescription Data Available



MICRO RIGHT ANGLE PRISMS

- Sizes as Small as 0.18mm
- Available Uncoated or with an Aluminized B Hypotenuse
- Custom Sizes Available for Volume Quantities

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