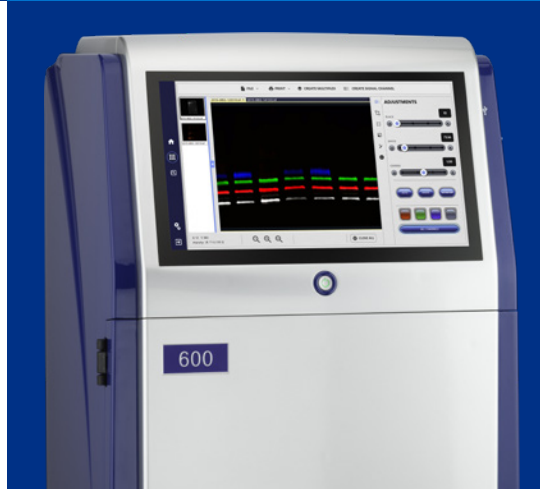


# AZURE BIOSYSTEMS PRODUCT CATALOG



# ABOUT AZURE BIOSYSTEMS

At Azure Biosystems, we develop easy-to-use, high-performance imaging systems and high-quality reagents for life science research. By bringing a fresh approach to instrument design, technology, and user interface, we move past incremental improvements and go straight to innovations that substantially advance what a scientist can do. In focusing on getting the highest quality data from these instruments—low backgrounds, sensitive detection, robust quantitation—we've created a line of reagents that consistently delivers reproducible results and streamlines workflows.

Providing scientists around the globe with high-caliber products for life science research, Azure Biosystems' innovations open the door to boundless scientific insights.

Learn more at [azurebiosystems.com](http://azurebiosystems.com).



**Sapphire  
Biomolecular  
Imager**



**Azure Imaging  
Systems**



**Cielo  
Real-time PCR**



**Ao Absorbance  
Microplate Reader**



**Reagents &  
Consumables**

Download our free Western Blotting eBook at [www.azurebiosystems.com/guidebook](http://www.azurebiosystems.com/guidebook).

## CORPORATE HEADQUARTERS

6747 Sierra Court  
Suite A-B  
Dublin, CA 94568  
USA

Phone: (925) 307-7127  
(9am–4pm Pacific time)

To dial from outside of the US:  
+1 925 307 7127

FAX: (925) 905-1816

Please send purchase orders to:  
[so@azurebiosystems.com](mailto:so@azurebiosystems.com)

For product inquiries, please email  
[info@azurebiosystems.com](mailto:info@azurebiosystems.com)

# TABLE OF CONTENTS

## Quickly Find the Solution to Your Western Woes.....4

### Imaging

Sapphire™ Biomolecular Imager.....6

SapphireEraser.....11

#### Azure Imaging Systems

Azure Imaging Systems 600, 500, 400 & 300.....12

Azure Imaging System 280.....14

Azure Imaging System 200.....15

Azure Imaging Systems Q Module.....16

AzureSpot Pro Analysis Software.....18

Accessories.....20

### Real-Time PCR Systems

Azure Cielo™ Real-Time PCR Systems.....23

Azure Cielo™ Dx Real-Time PCR Systems.....24

Azure Cielo Manager.....25

Consumables.....26

### Microplate Reader

Ao Absorbance Microplate Reader.....28

Ao Absorbance Microplate Reader  
Accessories and Filters.....29

### Reagents and Consumables

#### Blotting Accessories

Azure Aqua Power Supply.....31

Azure Aqua Quad Mini-Cell.....32

Azure Aqua Transfer Cell.....33

Incubation Trays.....34

Background Quenching Sheets.....35

Blot Development Folders.....36

### Transfer to Membrane

Pre-cut Membranes.....37

Blotting Paper for Western Blotting.....38

Azure Transfer Buffer.....39

### Total Protein Detection

Azure Ponceau Stain.....40

AzureRed Fluorescent Protein Stain.....41

TotalStain Q Fluorescent Total Protein Stain Kit.....42

### Membrane Blocking

Azure Chemi Blot Blocking Buffer.....43

Azure Protein-Free Blot Blocking Buffer.....44

Azure Fluorescent Blot Blocking Buffer.....45

### Wash Buffers

Azure Blot Washing Buffer.....46

Azure Fluorescent Blot Washing Buffer.....47

### Chemiluminescent Detection

Radiance™ Substrates.....48

Radiance™ ECL Substrate.....49

Radiance™ Q Substrate.....50

Radiance™ Plus Substrate.....51

Azure Flash Western Chemiluminescence Kit.....52

HRP-conjugated Secondary Antibodies.....53

HRP Stripping Buffer.....54

Azure ChemiWriter ECL.....55

### Fluorescent Detection

AzureSpectra Labeling Kits.....56

AzureSpectra Fluorescent Western Blotting Kits.....57

AzureSpectra Fluorescent Demo Kits.....58

AzureSpectra Fluorescent Secondary Antibodies.....59

# QUICKLY FIND THE SOLUTION TO YOUR WESTERN WOES



## **Sensitivity**

Reagents optimized to increase limit of detection.



## **Lower Background**

Reagents optimized to lower background for cleaner blots.



## **Save Time**

Products designed to save time.



## **Quantitation**

Products designed to increase quantitative accuracy.



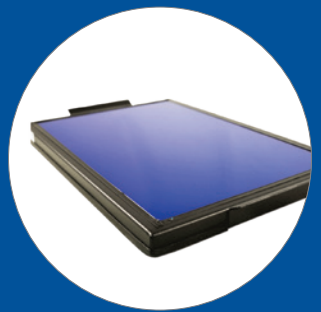
## **Sample**

Reagents that are available to sample.



1

# IMAGING



# SAPPHIRE™ BIOMOLECULAR IMAGER

## The next generation of laser-based imaging

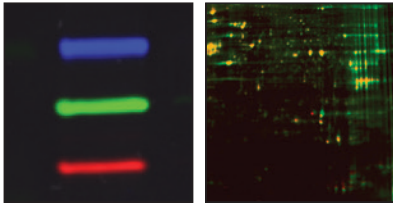
### Breakthrough image capture and analysis

The Sapphire Biomolecular Imager is a next generation laser scanning system that provides you with exceptional data quality through extremely sensitive detection, ultra high resolution and broad linear dynamic range.

This system supports long and short wavelengths of near infrared fluorescence (NIR), red/green/blue (RGB) imaging, chemiluminescent imaging, phosphor imaging as well as optical densitometry (OD) of proteins in stained gels.\*

- Improved multiplex fluorescent detection
- Chemiluminescence imaging, surpassing film
- Higher sensitivity for lower limits of detection (femtograms)
- Broad linear dynamic range for accurate quantitation
- Ease of use with intuitive control software

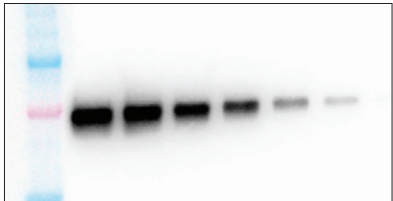
\*Patent pending



### Fluorescence Imaging

#### Improve Your Quantitation

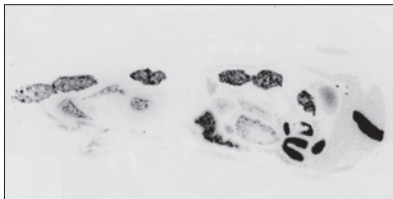
- Stable fluorescent signals enable reliable quantitation of weak and strong bands
- Probe for multiple proteins on a single blot, and get more results from each sample



### Chemiluminescence Imaging

#### Enhance your Detection

- Femtogram detection of protein
- The speed and sensitivity of traditional film with 4X the dynamic range



### Phosphor Imaging

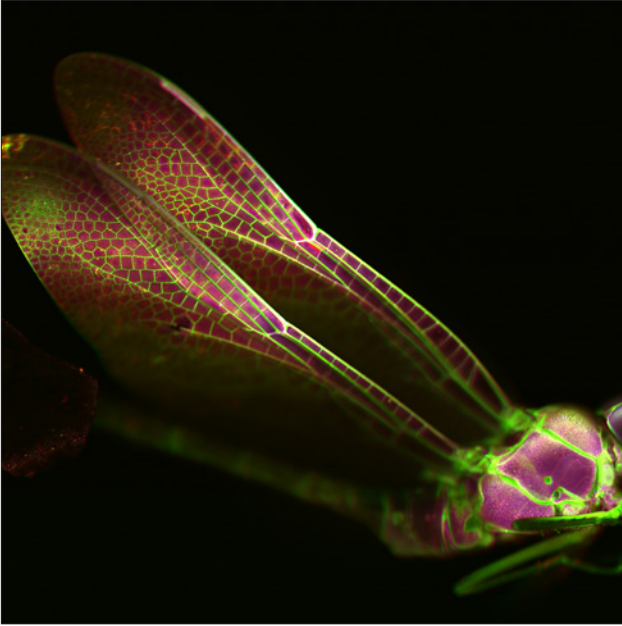
#### Improve Your Flexibility

- Scan storage phosphor screens for filmless autoradiography
- Wide dynamic range for sensitive detection

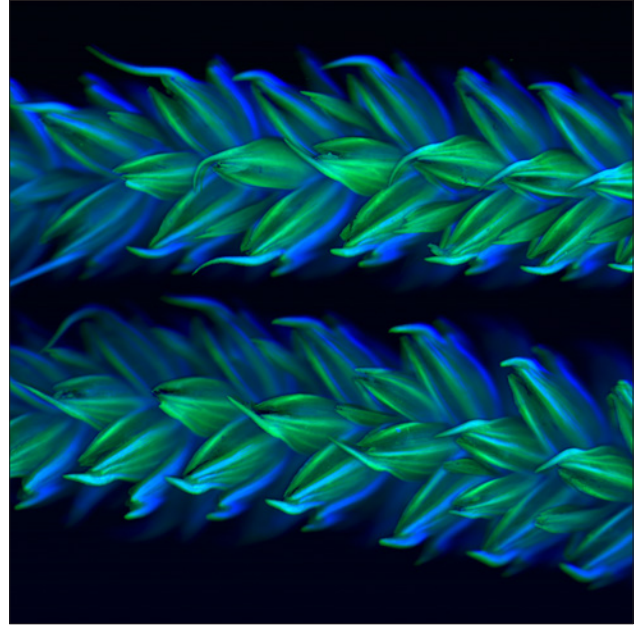
# SAPPHIRE™ BIOMOLECULAR IMAGER

Specifications	Sapphire NIR	Sapphire RGB	Sapphire RGBNIR	Sapphire PI
Part number	IS1024	IS1025	IS1026	IS1027
Laser excitation wavelengths	685, 784	488, 520, 658	488, 520, 658, 784	658
Bit depth	16 bit			
Scanning area	25 cm X 25 cm			
Scanning mode	Simultaneous or Sequential			Phosphor Imaging
Resolution	10 micron – 1000 micron			
Detectors	Avalanche Photodiode	Photomultiplier Tube, Avalanche Photodiode		Photomultiplier Tube
Scanning speed	50 cm/s			
Filters	Red 725BP40, IR 832BP37	Blue 518BP22, Green 565BP24, Red 710BP40	Blue 518BP22, Green 565BP24, Red 710BP40, IR 832BP37	390BP40
Dimensions (W X H X D)	75 cm X 45 cm X 70 cm			
Weight	140 lbs			
Power requirements	100 – 240 VAC ± 10%, 50/60 Hz			
Computer	Windows 10 laptop or Windows Pro desktop PC and 4K monitor			
Q-Module	<b>Optional</b> Laser excitation wavelength: 520 Filters: Green 565BP24	N/A		
Chemiluminescent Upgrade	<b>Optional</b> Imaging area, chemiluminescent: 16 cm X 13 cm Bit depth: 16 bit Resolution: 2688 X 2200 Imaging time: 0-60 minutes Visible imaging: Yes			
Phosphor Imaging Module	<b>Optional</b> Sample types: Storage phosphor screen (imaging plate)			N/A

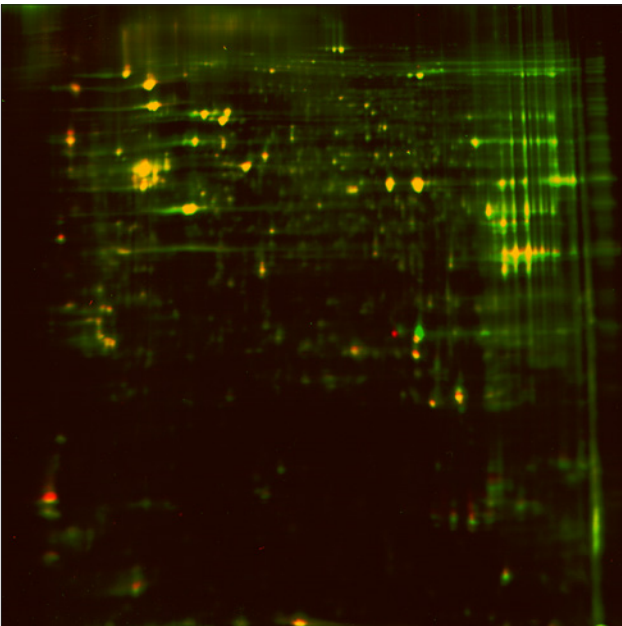
## SAPPHIRE™ BIOMOLECULAR IMAGER



**Dragonfly**  
488nm – 658nm – 784nm – 10micron

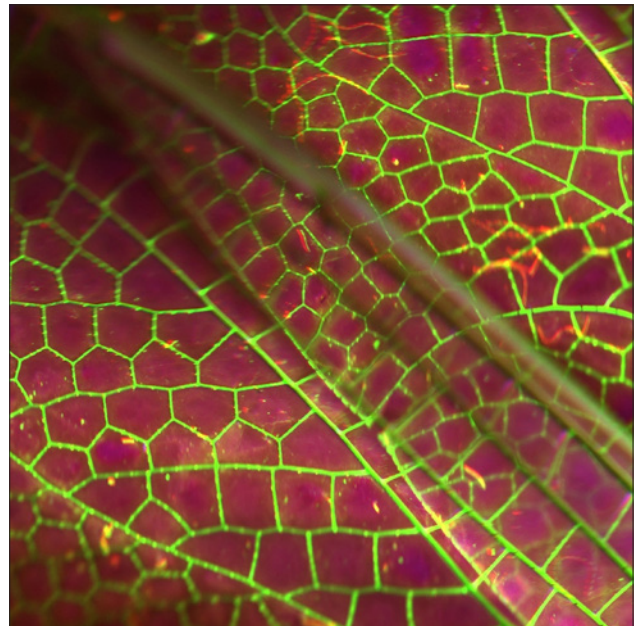


**Corn**  
488nm – 658nm – 10micron



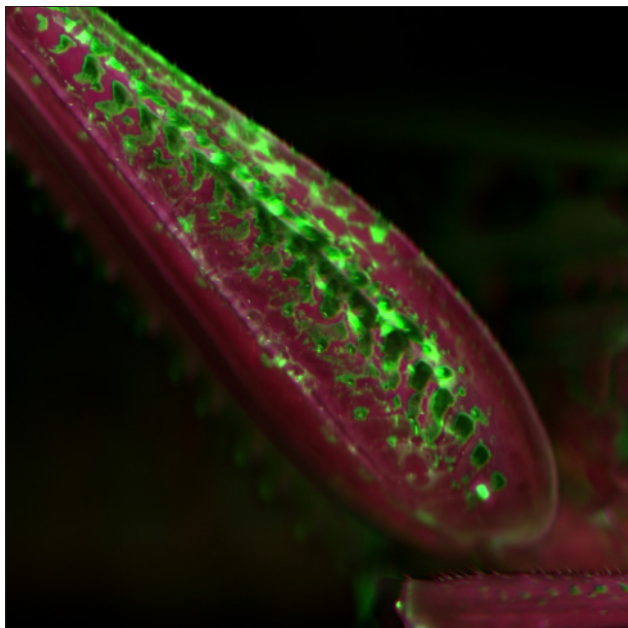
**2D Gel Image**

Untreated HeLa lysate was labeled with Cy3. Treated HeLa lysate was labeled with Cy5. Samples were simultaneously separated using IEF in the first dimension and SDS-PAGE in the second dimension.

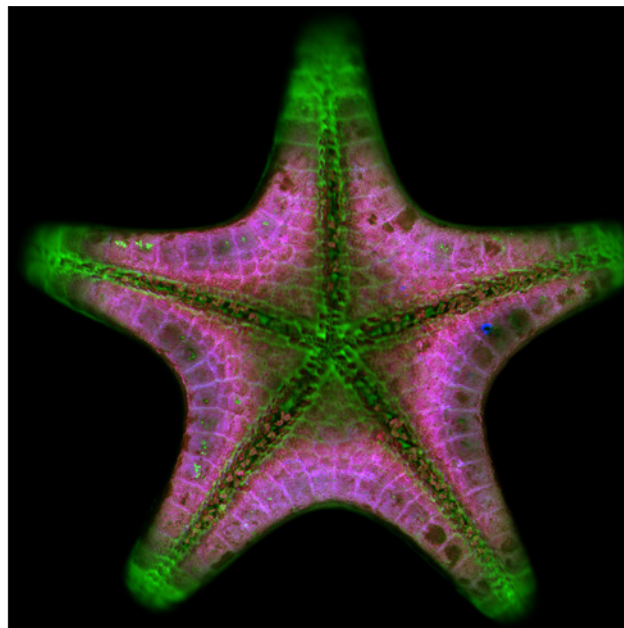


**Dragonfly (Zoom)**  
488nm – 658nm – 784nm – 10micron

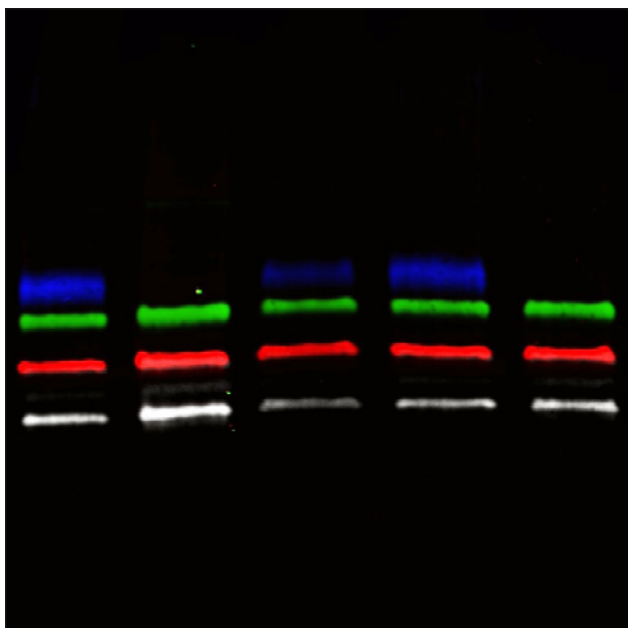
# SAPPHIRE™ BIOMOLECULAR IMAGER



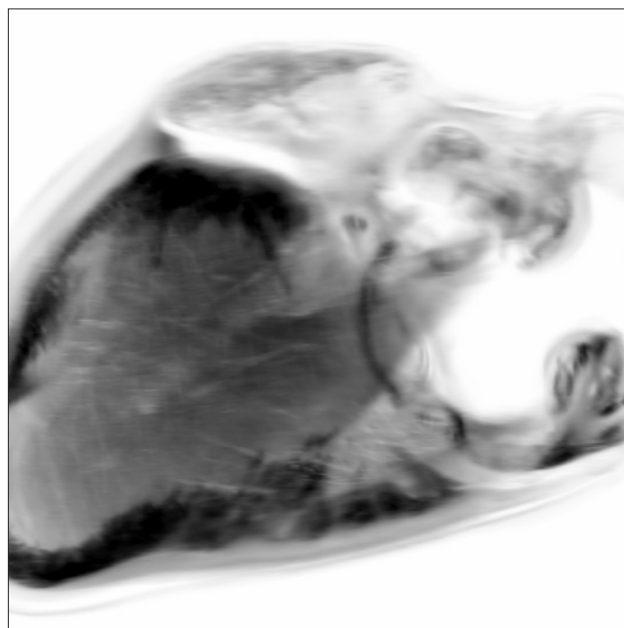
**Grasshopper (Zoom)**  
488nm – 658nm – 784nm – 10micron



**Sea Star**  
488nm – 520nm – 658nm – 784nm – 10micron



**Multiplex Fluorescence**  
Up to 4 different fluorescent probes can be used and imaged at once.



**Mouse Heart (Black & White)**  
658nm – 10micron

## SAPPHIRE™ BIOMOLECULAR IMAGER

Part Number	Name	Description
IS1024	Sapphire Biomolecular Imager – NIR	Laser excitation wavelengths at 685nm and 784nm
IS1025	Sapphire Biomolecular Imager – RGB	Laser excitation wavelengths at 488nm, 520nm and 658nm
IS1026	Sapphire Biomolecular Imager – RGBNIR	Laser excitation wavelengths at 488nm, 520 nm, 658nm and 784 nm
IS1027	Sapphire Biomolecular Imager – PI	Sapphire Biomolecular Imager for phosphor imaging
<b>Additional Modules</b>		
IS1003	Chemiluminescence Module	Add chemiluminescence detection and white light imaging to Sapphire Biomolecular Imager
IS1004	Phosphor Imaging Module	Add phosphor imaging to Sapphire Biomolecular Imager
IS1018	Q-Module – 520 Laser Module	Add 520nm laser and detector to Sapphire Biomolecular Imager – NIR
IS2018	Densitometry Module	Sapphire densitometry package for Azure Sapphire Biomolecular Imager with green channel (520nm laser).



# SAPPHIRE ERASER

## Phosphor screen imaging plate eraser

Dedicated instrument for erasing storage phosphor screens (imaging plates). LED light source, easy to use drawer design and interface. Fits up to 25x25cm storage phosphor screens.



Part Number	Name
IS1015	Azure Sapphire Eraser

## AZURE IMAGING SYSTEMS

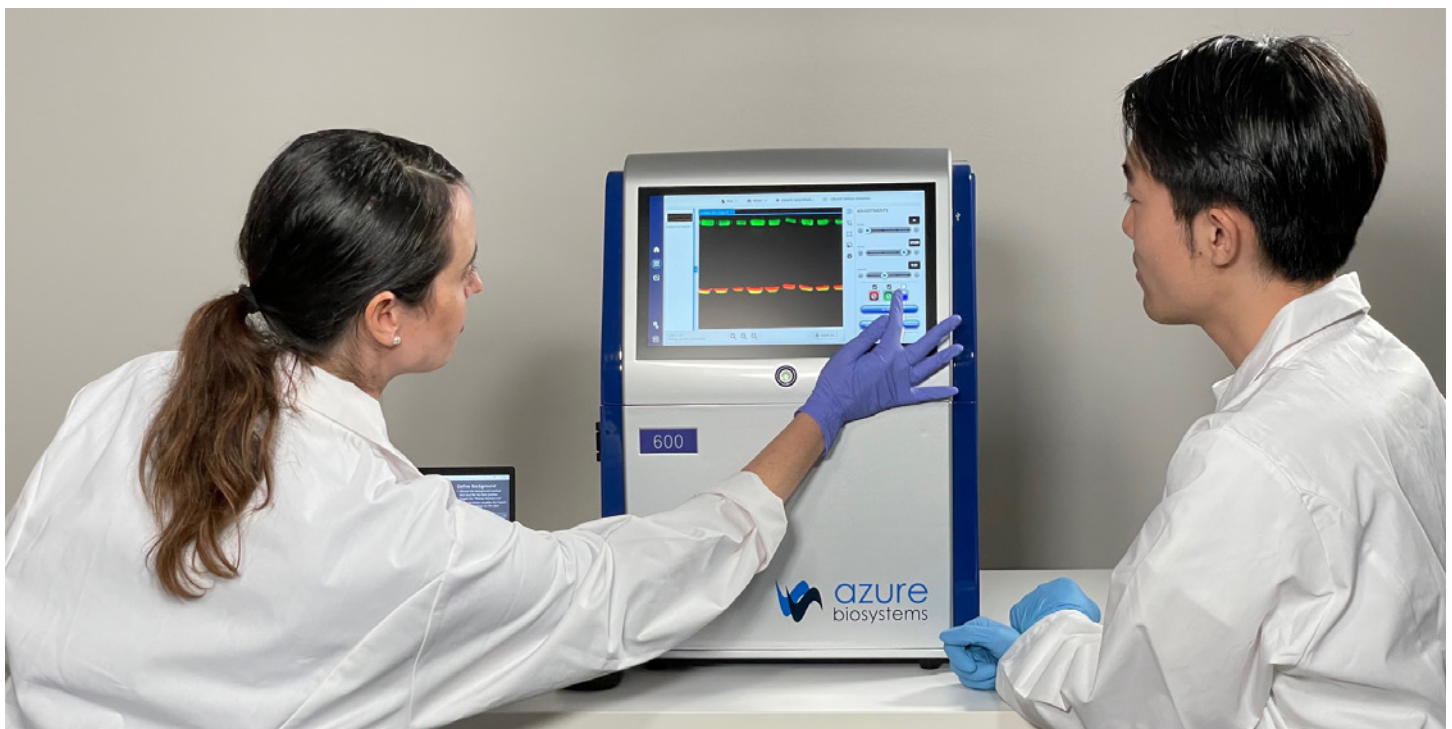
### 600, 500, 400 and 300

#### Performance without compromise

Azure Imaging Systems give you the flexibility you need for your research, while delivering solutions for quantitative Western Blot imaging.

Each Azure Imaging System provides:

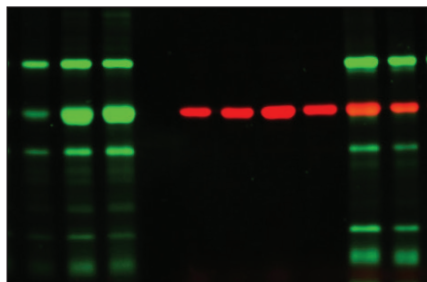
- **Flexibility**—Sensitivity and performance for fluorescence, chemiluminescence, trans-UV & visible, and true-color imaging with 4.8 OD dynamic range. High resolution CCD cameras with fast lens options, adjustable lens and illumination settings, trays with adjustable distance to the camera, and auto-detection and pre-calibrated focus.
- **Quantitative accuracy**—Designed for generating publication quality images and easy quantitation. Our reagents, imaging system, and software work seamlessly together to help you follow best practices for Western Blot publication.
- **Intelligent workflow**—Our user interface allows total customization over imaging protocols, while ensuring repeatability from sample to sample. Our systems feature Auto-Focus, Auto-Illumination and Filter Control, and Auto-Image Capture. An integrated touchscreen allows ease of use and it can easily be controlled by an external PC, if required.
- **Data integrity**—Azure Biosystems meets the standards for publication in all major journals, and additionally offers software to enable 21 CFR Part 11 Compliance.



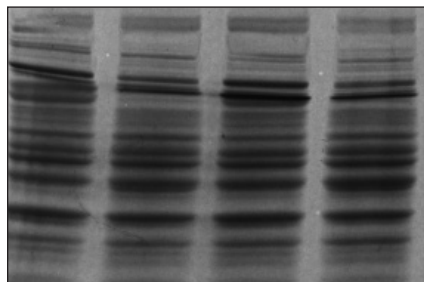
# AZURE IMAGING SYSTEMS

IR fluorescence, visible fluorescence UV fluorescence,  
chemiluminescence visible imaging and blue light excitation

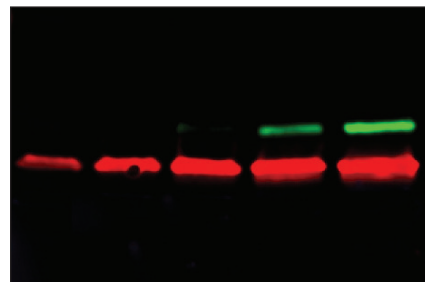
Gels | Blots | Plates | Tissues | Small Animal Models | Plants



In-gel Fluorescence  
with GFP and TAMRA



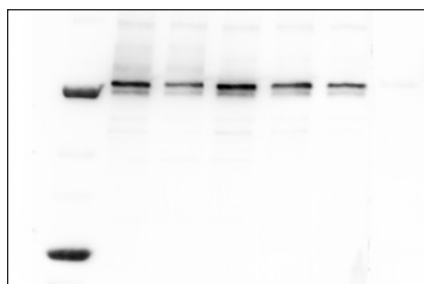
Coomassie Blue



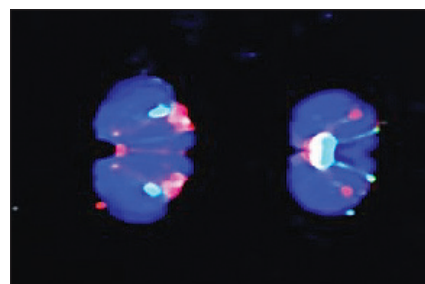
Western Blot with Cy3  
and Cy5 Dyes



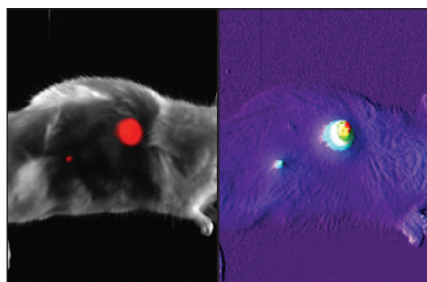
*Escherichia coli*



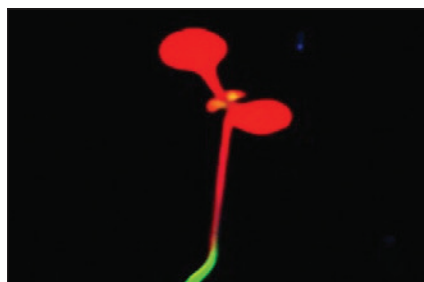
Chemiluminescent Western blot



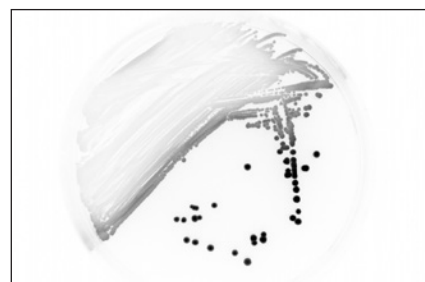
Mouse brain sections



Mouse with RFP-labeled subcutaneous  
tumor



*Arabidopsis thaliana*



Bioluminescent bacteria

## AZURE IMAGING SYSTEM 280

### The sensitivity of film at an economical price

With the Azure 280, performance and affordability go hand-in-hand, putting sensitive digital chemiluminescent detection within reach of most individual labs.

Get the same sensitivity as chemiluminescent detection on film, but without the hassles of a darkroom and the expense of a bulky film developer.

Image acquisition is as easy as placing your blot into the instrument and pressing a button—no more wasting time testing multiple film exposures to get the best image.

Ask for upgrade options to visible and IR Western Blot Imaging.

#### Key Features

- High performance digital chemiluminescent imaging eliminates the need for a darkroom—enjoy short imaging times, picogram sensitivity
- Application Flexibility—image DNA gels (EtBr, SYBR® Safe, and other “safe” dyes) and protein gels (Coomassie and silver stain) as well as chemiluminescent blots
- Easy analysis—included AzureSpot software automates many common tasks for quick and easy image capture and quantitation
- 4.8 OD Dynamic Range



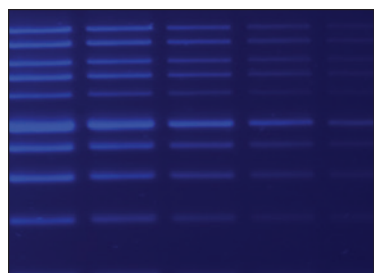
# AZURE IMAGING SYSTEM 200

## Gel imaging workstation

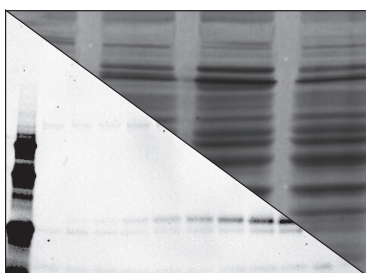
Easily image DNA and protein gels images without a darkroom with the Azure 200.

Use your choice of dyes or stains and the system automatically selects the light source and filters for you—UV for Ethidium bromide-stained DNA gels, blue light for SYBR® Safe or similar dyes, white light for Silver stain or Coomassie Blue.

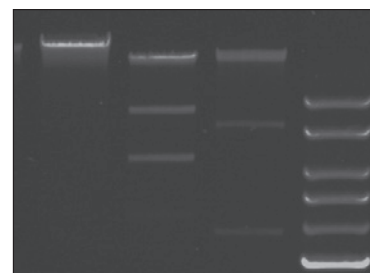
- **“Safe” Dye Detection**—A less toxic alternative to ethidium bromide, “Safe” dyes can be imaged with the EPI Blue LEDs standard in all the systems. Epi Blue is recommended as it delivers superior & uniform illumination with reduced background compared to transilluminated blue light.
- **Protein Analysis**—Protein gels stained with Coomassie blue or silver stain can easily be imaged using the white light tray.
- **DNA Detection with Ethidium Bromide**—With a dual-wavelength 302 nm and 365 nm UV transilluminator, images of ethidium bromide-stained DNA gels can be captured in a fraction of a second. A safety switch prevents accidental exposure to the light sources when the door is open. The UV transilluminator can be pulled out and the safety switch overridden for band excision.



**Blue Light Imaging**  
SYBR® Safe, SYBR® Gold, SYBR® Green



**White Light Imaging**  
Coomassie Blue, Silver Stain



**UV Imaging**  
Ethidium Bromide

## AZURE IMAGING SYSTEMS Q MODULE

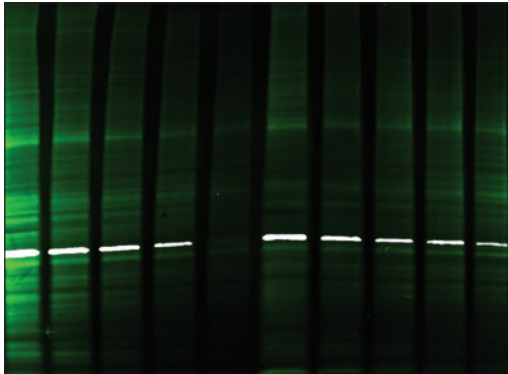
**Upgrade the Azure 500 and Azure 300 to include a green fluorescence Q module to add a dedicated channel for total protein normalization in quantitative Western blots.**

The Q module allows for efficient total protein normalization for quantitative Western blots.

Solve the issue of housekeeping proteins' lack of linearity and normalization accuracy at high protein loads by incorporating total protein stains into your quantitative Western blot workflow.

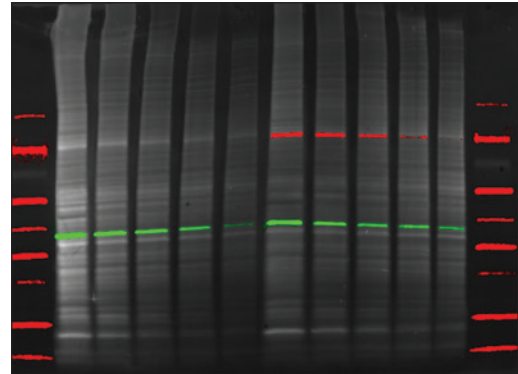


Azure 300 + Q Module = Chemi Imaging with TPS  
(Total Protein Stain)



**Simultaneous detection of total protein with AzureRed and Chemiluminescent Western Blot.** 2-fold serial dilutions of HeLa lysate were separated by SDS-PAGE and transferred to a PVDF membrane. After completion of the semi-dry transfer, the membrane was stained with AzureRed total protein stain. The blot was then blocked with Azure Chemiluminescent Blot Blocking Buffer prior to incubation with mouse anti-GAPDH. The blot was washed 3-times with Azure Blot Washing Buffer then incubated with Azure goat anti-mouse HRP secondary antibody. Chemiluminescent signal was detected with Radiance ECL substrate. After substrate incubation, the blot was imaged to produce an overlay of total protein staining and GAPDH protein. AzureRed is shown in green and GAPDH in gray.

NIR WB + Q Module =  
Multiplex Imaging with TPN



**Simultaneous detection of total protein content with AzureRed and two-color NIR Western Blot using AzureSpectra secondary antibodies.** 2-fold serial dilutions of HeLa (left) and IFN $\alpha$ -treated HeLa lysate (right) were separated by SDS-PAGE and transferred to a PVDF membrane. After transfer and before blocking, the membrane was stained with AzureRed total protein stain. Then, the membrane was incubated simultaneously with rabbit anti-phospho STAT-3 and mouse anti-GAPDH primary antibodies. After washing, the blot was incubated simultaneously with AzureSpectra goat anti-rabbit IR700 and AzureSpectra goat anti-mouse IR800 secondary antibodies.



## AZURE IMAGING SYSTEMS

	Azure 600	Azure 500Q	Azure 500	Azure 400	Azure 300Q	Azure 300	Azure 280	Azure 200
<b>Part number</b>	AZI600-01		AZI500-01	AZI400-01		AZI300-01	AZI280-01	AZI200-01
<b>GEL</b>	Dual UV 302 and 365							
	Safe Dye Blue Light							
	Visible Light							
	Trans White Light Table*							
<b>ECL</b>	Chemi ECL							N/A
	True Color Marker							N/A
<b>RGB</b>	Blue Cy2	N/A	N/A	Blue Cy2	N/A	N/A	N/A	N/A
	Green Cy3	"Q Module" Green Cy3	N/A	Green Cy3	"Q Module" Green Cy3	N/A	N/A	N/A
	Red Cy5	N/A	N/A	Red Cy5	N/A	N/A	N/A	N/A
	N/A	Upgradeable		N/A	Upgradeable		N/A	N/A
<b>NIR</b>	Laser 685			N/A	N/A	N/A	N/A	N/A
	Laser 784			N/A	N/A	N/A	N/A	N/A
	N/A			Upgradeable			N/A	N/A

	IR 800	IR 700	Red Cy5	Green Cy3	Blue Cy2	Safe Dye
<b>Excitation Source</b>	Lasers 784 nm	Lasers 685 nm	LEDs 628±16 nm	LEDs 524±12 nm	LEDs 472±15 nm	LEDs 472±15 nm
<b>Emission Filter</b>	IR 680 735 BP 28	IR 800 832 BP 37	Far Red Cy5 684 BP 24	Yellow Cy3 572 BP 28	Green Cy2 513 BP 17	Orange 595 BP 55
<b>Dyes</b>	IR 680 AzureSpectra 700	IR 800 AzureSpectra 800	Cy5 AzureSpectra 650	Cy3 AzureSpectra 550	Cy2 AzureSpectra 490	Safe Dye
<b>Stains</b>				TotalStain Q AzureRed	GFP	TotalStain Q
<b>Azure 600</b>	✓	✓	✓	✓	✓	✓
<b>Azure 500Q</b>	✓	✓		✓		✓
<b>Azure 500</b>	✓	✓				✓
<b>Azure 400</b>			✓	✓	✓	✓
<b>Azure 300Q</b>				✓		✓
<b>Azure 300</b>						✓

# AZURESPOT PRO ANALYSIS SOFTWARE

## Advanced analysis for 1D gels and blots

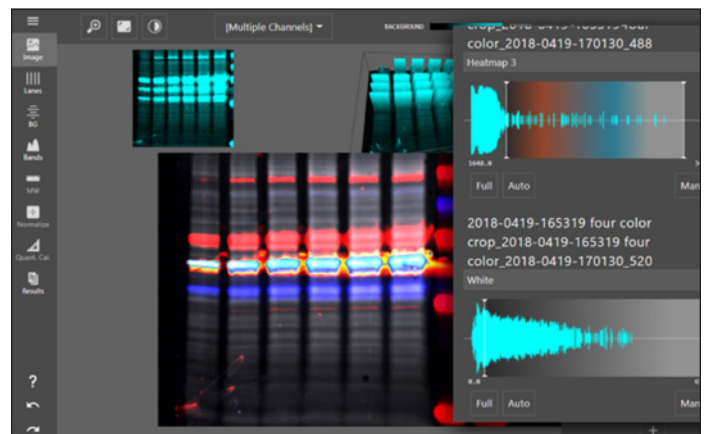
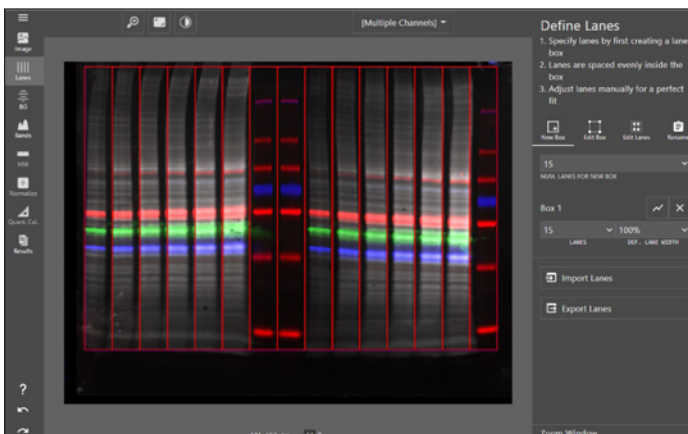
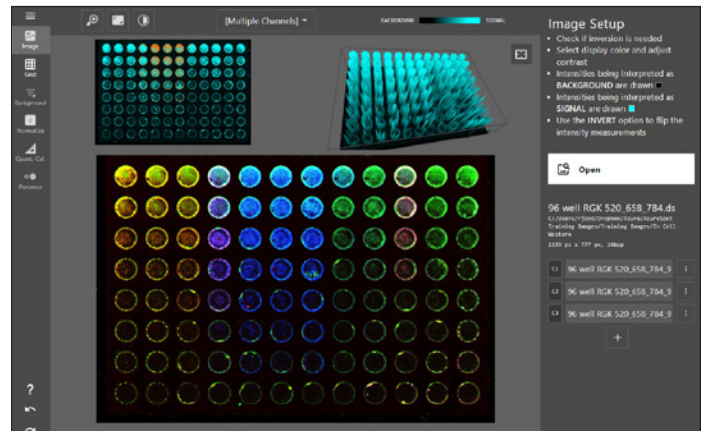
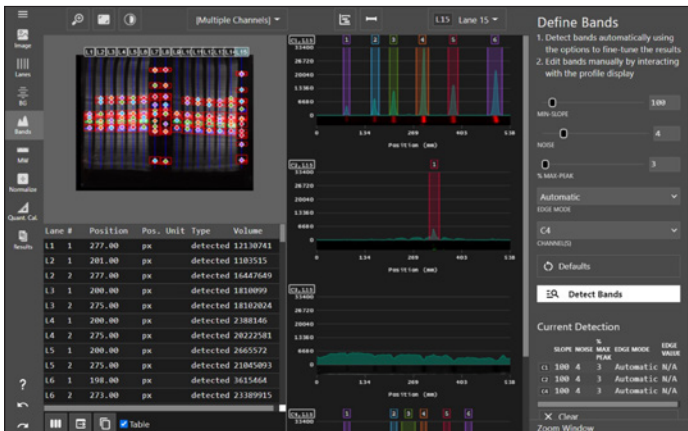
### Interpret your data easily and accurately

AzureSpot Pro helps you interpret your data easily and accurately. Analyze your gels and blots in either manual or automatic modes.

Automatically detect bands, even on distorted gels, and apply your selected method of background correction.

Visualize intensity plots by lane (sample) and channel (probe) to get detailed information about your proteins of interest.

The integrated tutorial helps you get the most information out of your analyses. Generate a report of your experiment or export your data to other applications (e.g. Excel) for further analysis.



# AZURESPOT PRO ANALYSIS SOFTWARE

## AzureSpot Pro can

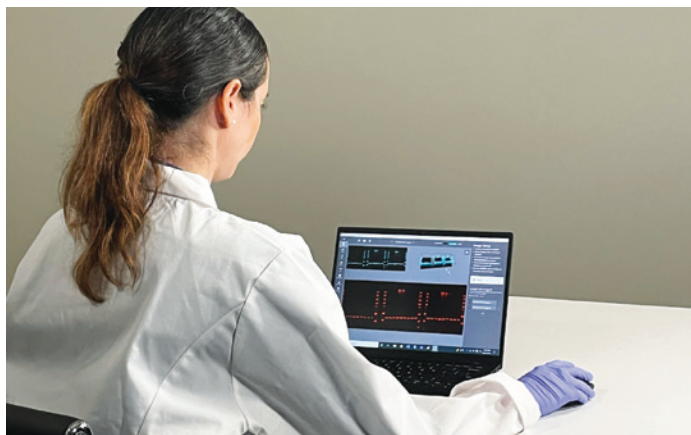
- Automatically detect bands
- Correct for background
- Calculate molecular weights
- Quantify fluorescent signals
- Annotate your results
- Visualize multiplex analyses
- Count colonies
- Analyze grids, well-plates and arrays
- Export reports

## Product features

- Integrated tutorial
- Report generator
- Automatic saturated pixel detection
- Analyze multiple blots or plates per image
- Lane creation tools
- Molecular size calibration
- Quantity calibration tool
- Blot and array normalization tool
- Module for easy shape selection/deselection
- Wide range of data fields to display in measurements
- Annotation tools for comments and highlighting of image

## Hardware and software requirements

- Operating systems: Windows 10 64-bit, Windows 8.1 64-bit, macOS Big Sur, macOS Catalina
- Processor: 64-bit Processor (Intel or AMD)
- Memory: Minimum 2 GB, recommended 16 GB
- Free Hard Disk Space: Recommended 4 GB
- File Formats: .tif, .jpg, .png, .img



Part Number	Name	Description
AC1078	AzureSpot Pro	Analysis of 1D gels and Western blots. Band analysis. Array Analysis. Colony counting. 4 Software Installations. PC and Mac compatible.
AC1077	AzureSpot Pro GxP	Analysis of 1D Gels and WBs. Supplies compliance with 21CFR Part11. Includes IQ OQ. Electronic License



Download a 30-day trial  
of AzureSpot Pro

## ACCESSORIES



### Thermal Printer

Digital thermal grayscale USB printer.

Part Number	Name	Description
AC1011	Thermal Printer	Includes USB cable, driver, and one roll of thermal paper



### Thermal Paper

One box (4 rolls) High Density Thermal Paper.

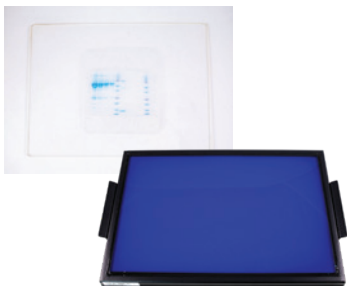
Part Number	Name	Description
AC1012	Thermal Paper	Each roll measures 110mm x 21m



### UV Safety Glasses/Goggles

For use with UV light or Blue light.

Part Number	Name	Description
AC1022	UV Safety Glasses/Goggles	Recommended accessory for band excision



### Screens

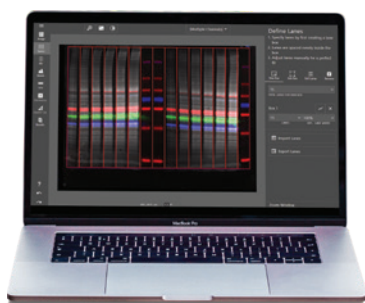
Part Number	Name	Description
AC1024	Gel Cutting Screen	UV transmitting plastic that protects the transilluminator glass during band excision from gels
AC1025	Blue Light Conversion Screen	For trans illumination of blue light. Converts UV light to blue light

## ACCESSORIES



### Trays

Part Number	Name	Description
AC1023	Gel Carrying Tray	UV Transmitting Tray with raised edges designed for transporting your sample into the imager (size 9x7 inches)
AC1016	Orange Tray	For setting under Coomassie blue, silver stained, and other colorimetric gels during imaging
AC1017	Black Tray	Black tray designed for optimal blot performance
AZI1000	Trans White Table	Trans White Table designed for imaging Coomassie blue, silver stain and other colorimetric gels
AZI1002	Trans White Table Bundle	Includes Azure Imaging system Trans White Table and Gel Carrying Tray



### Computer/Tablet Accessories

Part Number	Name	Description
AC1013	USB Keyboard	USB wireless keyboard compatible with Azure Imaging Systems
AC1014	USB Mouse	USB wireless mouse compatible with Azure Imaging Systems
AC1015	Stylus	Pointer tip for touch screen compatible with Azure Imaging Systems

### Sapphire Imaging Accessories

Part Number	Name	Description
IS1010	Sapphire Mat	Designed for flattening membranes against the glass surface
IS1011	Phosphor Screen	Multipurpose screen for ionizing radiation (20 x 25 cm)
IS1012	Cassette for Phosphor Screen	Cassette for the multipurpose screen (20 x 25 cm)

2

# REAL-TIME PCR SYSTEMS





# AZURE CIELO™ REAL-TIME PCR SYSTEMS

## Cielo 3 and Cielo 6

The Azure Biosystems Cielo™ 3 and 6 qPCR Systems are designed to offer smart protocols, high quality data, robust durability and an intuitive user experience.

Our novel fiber optic detection system allows for enhanced sensitivity and speed. 3 or 6 standard channels let you analyze a variety of commercially available dyes, already in your workflow. Onboard software operated by a 10.2" touchscreen minimizes footprint and saves you bench space.

Easily connect to your Cielo via Wi-Fi, ethernet, USB or LAN. Get notified after each completed run and even remotely access protocols and files.



### Applications

- Quantitative and qualitative gene expression analysis
- miRNA analysis
- Genetic mapping
- Genetic fingerprinting
- NGS library quantification
- 3 or 6 channel multiplex ability
- Pathogen quantification

### Key Features

- Tested durability up to 1000 repeat experiments. 1 year standard warranty
- Marlow Peltier heating block with 12 gradient temperature zones
- 6.0 °C/sec ramp rate
- 96-well format for semi-skirted or un-skirted plates
- Fiber optic detection for 16-wells simultaneously
- 3 or 6 optical channels for multiplexing
- Sensitivity up to 1 copy of amplified DNA, 10 logs of dynamic range
- Open source chemistry, including FAST chemistry for ~20 min run-times
- Easily export data via Wi-Fi, ethernet, USB or LAN. Get notified after each completion

Dyes/Probes	Azure Cielo 3	Azure Cielo 6
SYBR™ Green, EvaGreen™, FAM™	Yes	Yes
VIC®, HEX™, JOE™, CAL Fluor® 540, CAL Fluor® Orange 560	Yes	Yes
TAMRA™		Yes
ROX™, TEX®615, CAL Fluor® Red 610		Yes
CY®5, Quasar®670, Liz® Mustang Purple®	Yes	Yes
CY® 5.5		Yes

Other dyes/probes are possible depending on the system configuration.

# AZURE CIELO™ DX REAL-TIME PCR SYSTEMS

## In-vitro Diagnostic Use

The Azure Cielo Dx qPCR system for in-vitro diagnostic use brings you the accuracy and sensitivity you need for your research, with intuitive touch screen software. With 6-target detection, the flexibility you need is at your fingertips.

Our novel fiber optic detection system allows for enhanced sensitivity and speed. 3 or 6 standard channels let you analyze a variety of commercially available dyes, already in your workflow. Onboard software operated by a 10.3" touchscreen minimizes footprint and saves you bench space.

Easily connect to your Cielo via Wi-Fi, ethernet, USB or LAN. Get notified after each completed run and even remotely access protocols and files.



### Applications

- Quantitative and qualitative gene expression analysis
- miRNA analysis
- Genetic mapping
- Genetic fingerprinting
- NGS library quantification
- 3 or 6 channel multiplex ability
- Pathogen quantification

**USA:** For *in vitro* diagnostic (IVD) use. The Azure Cielo 3 Dx and Azure Cielo 6 Dx Real-time PCR systems are registered with the U.S. FDA as Class II 510(k) exempt devices.

**EU:** For IVD use. The Azure Cielo 3 Dx and Azure Cielo 6 Dx systems are CE marked under the In Vitro Diagnostic Medical Devices Directive (98/79/EC). The CE IVD-authorized Azure Cielo Dx Systems are for distribution and use in EU countries only (Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovenia, Spain, and Sweden).

### Key Features

- Tested durability up to 1000 repeat experiments. 1 year standard warranty
- Marlow Peltier heating block with 12 gradient temperature zones
- 6.0 °C/sec ramp rate
- 96-well format for semi-skirted or un-skirted plates
- Fiber optic detection for 16-wells simultaneously
- 3 or 6 optical channels for multiplexing
- Sensitivity up to 1 copy of amplified DNA, 10 logs of dynamic range
- Open source chemistry, including FAST chemistry for ~20 min run-times
- Easily export data via Wi-Fi, ethernet, USB or LAN. Get notified after each completion

Dyes/Probes	Azure Cielo 3 Dx	Azure Cielo 6 Dx
SYBR™ Green, EvaGreen™, FAM™	Yes	Yes
VIC®, HEX™, JOE™, CAL Fluor® 540, CAL Fluor® Orange 560	Yes	Yes
TAMRA™		Yes
ROX™, TEX®615, CAL Fluor® Red 610		Yes
CY®5, Quasar®670, Liz® Mustang Purple®	Yes	Yes
CY® 5.5		Yes

Other dyes/probes are possible depending on the system configuration.

# AZURE CIELO MANAGER

**PC-compatible software designed to let you set up, run and analyze your real-time PCR data from your personal computer**

Key features include:

- Data analysis modes for qPCR with dye/SYBR, quantitative PCR with probe, allele discrimination with probe, comparative quantitation and melt curve
- Intuitive plate map design allows users to assign well ID as standards, unknowns, calibrators, negative controls, NTC, etc.
- Easily set up and monitor thermal profiles including temperature, time and plate scan for each step
- View real-time qPCR graphs during an active experiment to monitor real-time reactions
- Post-run summary and analysis with ability to view statistical data in the form of charts, curves and graphs
- View a complete and easily customizable report of the qPCR experiment that can be readily exported
- Easily copy/paste data or graphs into Paint, Microsoft Office or other supported applications as needed
- Export data to MS Office, PDF or in MIQE preferred RDML (1.0, 1.1, 1.2) formats



**Quickly set up and confirm plate layout.** Each well is color coded by sample type, biological replicate, and technical replicate. Well type and standard curve values are also easily visible.

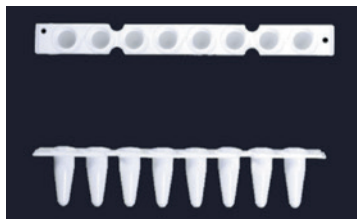


**View each individual amplification trace by target or sample.** Easily adjust threshold values by dragging the threshold line, or typing in the threshold value.



**View 2D "heat map" of samples to quickly understand your data.**

# CONSUMABLES



## Low Profile White Thin-Wall 8-Tube Strip

Part Number	Name	Description
AIQ323	White Thin-Wall 8-Tube Strip 0.1 ml	Low-profile, white, opaque, 8-tube strips (0.1 mL). Pack of 120 strips.



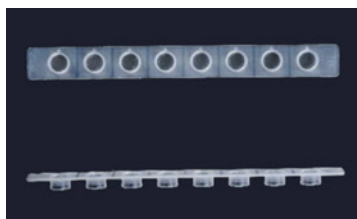
## Low Profile White 96-Well Plate

Part Number	Name	Description
AIQ322	Low Profile White 96-Well Plate 0.1ml	Low-profile, white, opaque, semi-skirted, 96-well plate (0.1 mL). Pack of 25.



## Ultra Clear Optical Sealing Sheet

Part Number	Name	Description
AIQ325	Ultra Clear Optical Sealing Sheet	Optical, non-pierceable seal that can be removed after the qPCR run. Pack of 25.



## Ultra Clear Flat 8-Cap Strip

Part Number	Name	Description
AIQ324	Ultra Clear Flat 8-Cap Strip	Optical wide area 8-cap strip. Indented cap prevents "finger touch" signal interference. Pack of 120.

4

# MICROPLATE READER



# AO ABSORBANCE MICROPLATE READER

## Reading your 96 well plates just got easier

A microplate reader is an essential part of a productive lab, with its application flexibility, sensitivity, and high-throughput capabilities. The Ao's top-reading design is ideal for solution-based assays such as ELISAs, DNA and protein quantification, and enzyme kinetics.

- Stand-alone, top absorbance reader
- Large, easy-to-use 7-inch touch screen interface
- Pre-set and custom protocols
- Single and dual wavelength detection modes
- 8 position filter wheel: 5 standard filters (405, 450, 492, 595, and 630) plus 3 options from 340 – 750 nm
- Built-in shaker with speed selection
- Motorized door for easy sample loading
- 2-year warranty



Specifications	Ao Absorbance Microplate Reader
Plate Type	96-well Plates
Wavelength Range	340–750 nm
Filters	8 Position Filter Wheel includes 8 filters, 5 standard: 405, 450, 492, 595, and 630, and 3 selected from the filter catalogue.
Light Source	Quartz-halogen Lamp
Dynamic Range	0–4.000 Abs
Resolution	0.001 Abs
Linearity (@ 405 nm)	0–2.000 Abs $\leq \pm 1\%$ , 2–4.000 Abs $\leq \pm 2\%$
Accuracy (@ 405 nm)	0.005 $\pm 1\%$ (0–3 Abs), 0.005 $\pm 2\%$ (3–4 Abs)
Precision (@ 405 nm)	CV $\leq 0.2\%$ (0–3 Abs), CV $\leq 1.0\%$ (3–4 Abs)
Read Modes	End Point, Dual Mode, Kinetic
Read Speed	<6s Single Mode, 12s Dual Mode
Shaker	Shaker speeds: slow, medium, fast
Data Output	3 USB Ports, Optional Printer
Dimensions (W x D x H)	440 x 295 x 225 mm
Weight	10 kg



## AO ABSORBANCE MICROPLATE READER

Part Number	Name	Description
AC3000	Azure Ao Microplate Reader	This 96-well plate, absorbance microplate reader is a stand-alone system, wavelength range 340-750nm, including 8 position filter wheel with 8 filters: 405, 450, 492, 595, and 630 standard, plus 3 from the filter catalogue, built-in shaker with speed selection, single and dual-read modes, and analysis software

### Accessories

Part Number	Description
AC3200	USB Thermal Printer
AC3201	USB Thermal Printer Paper, single roll

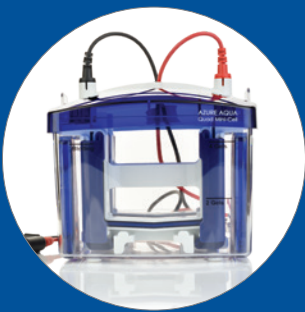
### Filters

Part Number	Description
AC3100	Ao 340 nm Filter
AC3101	Ao 380nm Filter
AC3102	Ao 405 nm Filter
AC3103	Ao 415 nm Filter
AC3104	Ao 450 nm Filter
AC3115	Ao 470 nm Filter
AC3116	Ao 490 nm Filter
AC3105	Ao 492 nm Filter
AC3117	Ao 510 nm Filter
AC3118	Ao 520 nm Filter
AC3119	Ao 525 nm Filter
AC3120	Ao 532 nm Filter
AC3106	Ao 540 nm Filter
AC3121	Ao 545 nm Filter
AC3122	Ao 560 nm Filter

Part Number	Description
AC3123	Ao 562 nm Filter
AC3107	Ao 570 nm Filter
AC3108	Ao 578 nm Filter
AC3109	Ao 590 nm Filter
AC3110	Ao 595 nm Filter
AC3124	Ao 600 nm Filter
AC3125	Ao 620 nm Filter
AC3111	Ao 630 nm Filter
AC3126	Ao 646 nm Filter
AC3112	Ao 650 nm Filter
AC3127	Ao 663 nm Filter
AC3113	Ao 690 nm Filter
AC3128	Ao 700 nm Filter
AC3114	Ao 750 nm Filter

3

# REAGENTS AND CONSUMABLES



## AZURE AQUA POWER SUPPLY

### Versatile power supply for gel electrophoresis and blotting transfers

The Azure Aqua Power Supply is a universal power supply that is designed for powering electrophoresis and transfer modules. The power supply can create and save protocols for all your gel and blotting experiments, and includes a pause/resume function for flexibility.

The system comes equipped with four power connections to run multiple experiments at once, and can control constant power, current, or voltage.



Part Number	Name
AC4203	Azure Aqua Power Supply

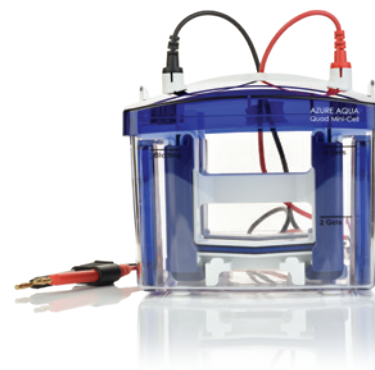
## AZURE AQUA QUAD MINI-CELL

### Vertical electrophoresis tank for running up to four gels simultaneously

The Azure Aqua Quad Mini-Cell is designed for running 1–4 precast or handcast gels (cassette size 10cm x 8cm) for electrophoresis. The locking side fasteners provide a tight seal that ensure rapid and easy electrophoresis. The unit comes equipped with 4 gel casting stands and casting frames, perfect for handcasting your own gels. Simply align the spacer and short glass plates, seal between the hinges, and allow your gel to polymerize. Insert the polymerized gel into the electrophoresis module for an efficient gel running experiment.

#### Includes

- 4 gel casting stands and casting frames
- 1 buffer dam
- 5 spacer plates (1mm)
- 10 short glass plates
- 5 15-well combs
- 5 10-well combs
- 5 sealing gaskets
- 5 gel shovels
- Tank and upper lid with power cables
- Primary and Secondary Electrode Cores



Part Number	Name
AC4200	Azure Aqua Quad Mini-Cell

## AZURE AQUA TRANSFER CELL

### Wet transfer cell for Western blotting experiments

The Azure Aqua Transfer Cell is used for transferring two mini gels to membranes for Western blotting experiments (wet transfer). The transfer cassettes and electrode core are colored for directionality which makes transferring easy and straightforward. Perform a quick, 1 hour transfer or transfer overnight at a lower voltage.

#### Includes

- 2 transfer cassettes
- 6 sponges
- 2 Azure Aqua cooling units
- Tank and upper lid with power cables
- Transfer Electrode Cores



Part Number	Name
AC4201	Azure Aqua Transfer Cell

## INCUBATION TRAYS

### For staining and washing gels and membranes

These specially designed incubation trays are ideal for staining and washing electrophoresis gels and membranes. Available in a range of sizes in both clear and opaque.

#### Features

- Lidded—to protect experiments from dust or debris
- Non-binding—surfaces treated with silicone to prevent antibody loss
- Convenient—multiple sizes available for different applications
- Opaque or clear—opaque trays are ideal for dealing with light sensitive fluorescent blots

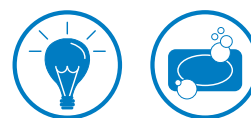


Part Number	Name	Description	Size
AC2120	Incubation Tray – 7x5cm (opaque black top and bottom)	For staining and washing light sensitive gels and membranes	5 trays
AC2121	Incubation Tray – 9x6cm (opaque black top and bottom)	For staining and washing light sensitive gels and membranes	4 trays
AC2122	Incubation Tray – 11x9cm (opaque black top and bottom)	For staining and washing light sensitive gels and membranes	3 trays
AC2123	Incubation Tray – 15.5x10.5cm (opaque black top and bottom)	For staining and washing light sensitive gels and membranes	2 trays
AC2150	Incubation Tray – 7x5cm (clear)	For staining and washing gels and membranes	5 trays
AC2151	Incubation Tray – 9x6cm (clear)	For staining and washing gels and membranes	4 trays
AC2152	Incubation Tray – 11x9cm (clear)	For staining and washing gels and membranes	3 trays
AC2153	Incubation Tray – 15.5x10.5cm (clear)	For staining and washing gels and membranes	2 trays

## BACKGROUND QUENCHING SHEETS

### Background quenching sheets for use with fluorescent or chemiluminescent samples

Use these quenching sheets under your blot when imaging chemiluminescent or fluorescent Westerns. The sheets reduce background due to contamination or auto-fluorescence, improving the quality of your image.



Part Number	Name	Description	Size
AC2144	Quenching Sheets – 9x12.5cm	Background quenching sheets for use with fluorescent or chemiluminescent samples	10 sheets



## BLOT DEVELOPMENT FOLDERS

### Transparent plastic sheets to hold blots for imaging

A wrinkle-free alternative to plastic wrap, these transparent plastic folders hold your blot during handling and imaging and help maximize the signal longevity of Radiance and Radiance Plus Substrates.



Part Number	Name	Description	Size
AC2126	Blot Development Folders	Transparent plastic sheets to hold blots for imaging – alternative to plastic wraps	100 sheets

## PRE-CUT MEMBRANES

### Pre-cut PVDF membranes for a variety of Western blotting applications save you time in the lab

#### Features

- Performance—quality-controlled for background-free Westerns
- Convenience—save time, and avoid concerns about membrane contamination
- Flexibility—available in PVDF and nitrocellulose, choose the right membrane for your application



#### PVDF pre-cut membranes for Western blotting applications

Low-fluorescence PVDF membranes reduce background noise for improved sensitivity. Available in three different pre-cut sizes.

- High binding capacity is great for low expressing proteins
- Typically used for fluorescence
- High protein retention for stripping and reprobing

#### Nitrocellulose pre-cut membranes for Western blotting applications

Low-fluorescence Nitrocellulose membranes are available in both 0.45  $\mu\text{m}$  and 0.22  $\mu\text{m}$  pore sizes to accommodate larger and smaller proteins, respectively.

- Low molecular weight proteins
- Typically used for chemi
- Not ideal for stripping

Part Number	Name	Description	Size
AC2105	Low Fluorescence Western Membrane (PVDF) 0.45 $\mu\text{m}$	Pre-cut 9x7 cm	10 sheets
AC2108	Low Fluorescence Western Membrane (PVDF) 0.45 $\mu\text{m}$	Pre-cut 10x15 cm	10 sheets
AC2109	Low Fluorescence Western Membrane (PVDF) 0.45 $\mu\text{m}$	Pre-cut 13x18 cm vertical gels	10 sheets
AC2106	Nitrocellulose Transfer Membrane 0.45 $\mu\text{m}$	Pre-cut 8x10 cm	10 sheets
AC2107	Nitrocellulose Transfer Membrane 0.22 $\mu\text{m}$	Pre-cut 8x10 cm	10 sheets

## BLOTTING PAPER FOR WESTERN BLOTTING

### Pre-cut blotting paper for Western blot transfer

Pre-cut blotting papers save time and reduce waste for the easiest Western blotting workflow. Forget about measuring and cutting blotting paper to the size of your mini-gels. Use these pre-cut papers to assemble your transfer “sandwiches”.

Blotting papers are cut to completely cover the gels and membranes.

- For 8x10cm gels—blotting papers are 9x13cm
- For 7x9cm gels—blotting papers are 8x10cm



Part Number	Name	Description	Size
AC2110	Blotting Paper for Western Blotting	Pre-cut blotting paper for Western blot transfer—7x9 cm vertical gels	60 sheets
AC2111	Blotting Paper for Western Blotting	Pre-cut blotting paper for Western blot transfer—8x10 cm vertical gels	60 sheets

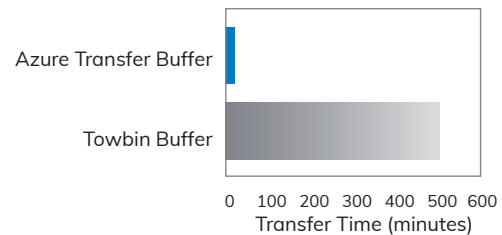
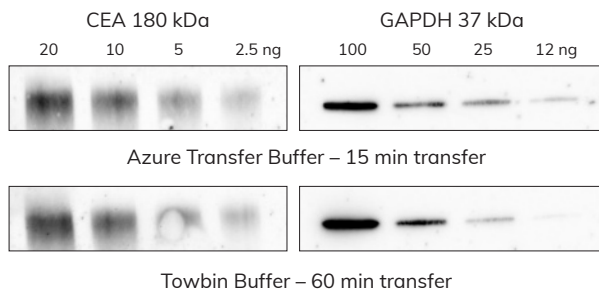
# AZURE TRANSFER BUFFER

## Enhanced protein transfer for improved sensitivity

Azure's proprietary transfer buffer provides improved detection of low-abundance and post-translationally modified proteins. High-efficiency protein transfer and increased protein retention on the membrane add up to more sensitive Western blots.

### Features

- **High performance**—increased protein retention on the membrane and fast transfer times result in more sensitive detection of low-abundance and post-translationally modified proteins
- **Efficient**—enhanced transfer efficiency for proteins of all sizes
- **Fast**—transfer proteins in less than 20 minutes vs. several hours required with traditional transfer buffers
- **Convenient**—use your existing wet transfer electrophoresis apparatus



**Complete transfer in less than 20 minutes!** Transfer of CEA (high MW) and GAPDH (low MW) proteins was compared using Azure Transfer Buffer and Towbin transfer buffers. Following Western blot analysis, the data show equivalent protein transfer in 15 minutes with Azure Transfer Buffer vs. 60 minutes with Towbin buffer.

**Shorter run times.** Azure Transfer Buffer achieves complete protein transfer in less than 20 minutes.

Part Number	Name	Description	Size
AC2127	Azure Transfer Buffer	50x concentrated solution sufficient for 50–100 blots	500 ml

## AZURE PONCEAU STAIN

### Quick total protein stain for membranes

Azure Ponceau detects total protein on nitrocellulose and PVDF membranes, allowing you to check the quality of protein transfer before proceeding with Western blotting. Use Azure Ponceau Stain to quickly visualize whether protein transfer was even across the entire blot, and that no bubbles or other transfer artifacts are present. The staining is reversible and after destaining, membranes can immediately be used for Western blotting.

#### Features

- **Quick**—protein staining is complete in 5 minutes or less
- **Reversible**—easily destain membrane with water
- **Compatible**—after destaining, PVDF and nitrocellulose membranes are ready for Western blotting



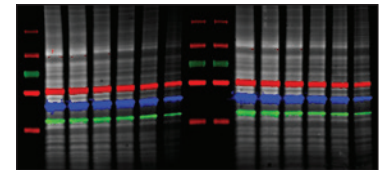
Part Number	Name	Description	Size
AC2125	Azure Ponceau Stain	Visible reversible total protein stain for proteins transferred to membrane—sufficient for staining 50 blots 9x7 cm	500 ml

# AZURERED FLUORESCENT PROTEIN STAIN

## Quantitative fluorescent total protein stain

### Features

- Sensitive—detect less than a nanogram of protein per spot
- Convenient—simple 30 minute protocol for blots or 3 hour protocol for gels
- Flexible—stain gels or membranes
- Reversible—destain for downstream Western blotting or mass spectrometry
- No speckling—clean background and no speckling for better data
- Safe—biodegradable and contains no heavy metals for increased safety and simple disposal
- Compatible—image stained blots or gels with laser or CCD imaging systems. Multiplex stained membranes with fluorescent Western blots for simultaneous detection of total protein and proteins of interest.



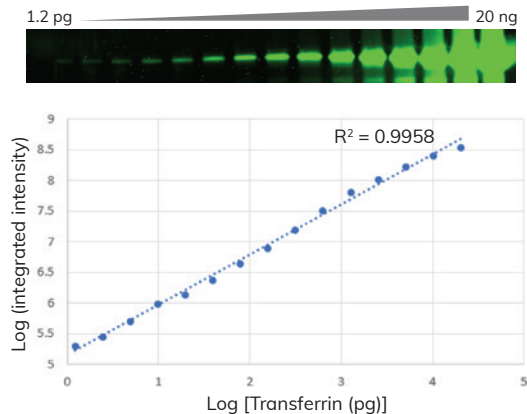
A membrane was stained with AzureRed and probed for three proteins. The resulting fluorescent Western blot was scanned on a Sapphire Biomolecular Imager to detect all three proteins and the total protein stain simultaneously.

### Total protein normalization

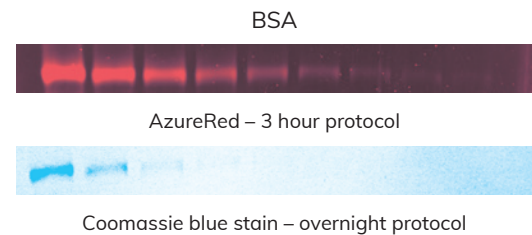
Use AzureRed as a fluorescent total protein normalization stain. The 30 minute protocol produces superior linearity, sensitivity and reproducibility and is compatible with multiplex fluorescent Western blotting.

### Stain 1D and 2D gels

AzureRed stains 1D and 2D gels in less than 3 hours, with high sensitivity, low background, and no speckling.



**Quantitative staining with AzureRed.** Gel containing a serial dilution of transferrin was stained with AzureRed and imaged with the 520nm channel of the Sapphire Biomolecular Imager. Less than 2pg of protein per band can be detected, and the signal is linear over more than 4 orders of magnitude.



**High sensitivity, fast protocol.** AzureRed outperforms both Coomassie blue and SYPRO® Ruby in time and sensitivity. Gels were stained with AzureRed, SYPRO Ruby, or Coomassie blue stain, according to the manufacturers' protocols and imaged on a CCD imager.

Part Number	Name	Description	Size
AC2124	AzureRed Fluorescent Protein Stain	Fluorescent total protein stain for 1D and 2D gels – sufficient for 20 minigels	5ml



## TOTALSTAIN Q FLUORESCENT TOTAL PROTEIN STAIN KITS

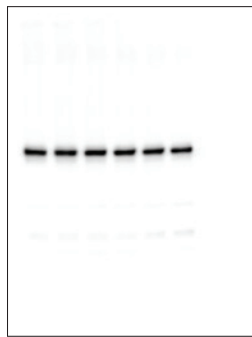
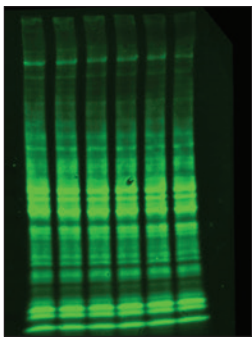
### Quantitative and rapid fluorescent reagent for Total Protein Normalization of Western Blots

The quantitative immunodetection of low abundant targets sometimes requires to load big amounts of protein in the gel. Highly expressed housekeeping proteins used for normalization lack proportionality in these conditions. TotalStain Q is a fluorescent total protein stain with linearity up to 50  $\mu\text{g}$  of lysate, making it ideal for normalization of low expressed proteins. Each PVDF and nitrocellulose kit is good for 15 membranes.

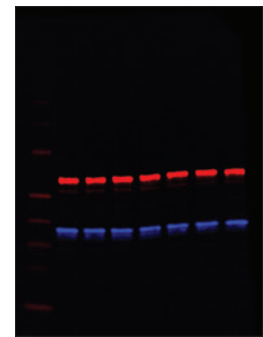
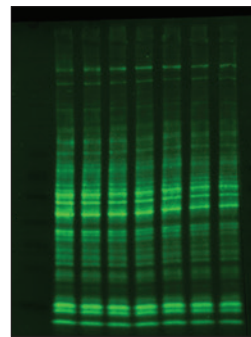


#### Features

- **Linearity**—Total protein signal remains linear over a range of 1–50  $\mu\text{g}$  of lysate, making it ideal for the most common samples in the lab
- **Convenience**—Simple stain-and-wash 20 minute protocol post-transfer and pre-blocking. No destaining step required
- **Versatility**—Compatible with ECL and NIR fluorescent immunodetection on PVDF in all Azure Imaging Systems. It is also used for transfer efficiency verification



**HeLa lysate 5 $\mu\text{g}$  replicates.** (Left) TotalStain Q imaged in Cy3 channel (Green). (Right) pSTAT3 chemiluminescent detection (Grayscale).



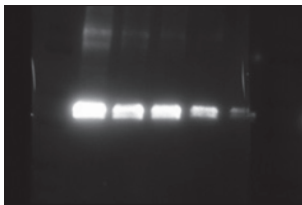
**HeLa lysate 5 $\mu\text{g}$  replicates.** (Left) TotalStain Q imaged in Cy3 channel (Green). (Right) hnRNP K detection in 700nm channel (Red); GAPDH detection in 800nm channel (Blue).

Part Number	Name	Description	Size
AC2225	TotalStain Q – PVDF Fluorescent Total Protein Stain Kit	Fluorescent Total Protein Stain for PVDF membranes	1 kit
AC2227	TotalStain Q – NC Total Protein Stain Kit	Fluorescent Total Protein Stain for nitrocellulose membranes	1 kit

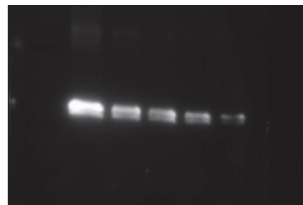
# AZURE CHEMI BLOT BLOCKING BUFFER

## Ready-to-use block that enhances chemiluminescent signal

Azure Chemi Blot Blocking Buffer was formulated specifically for chemiluminescent Western blots to enhance signal and lower background. The 1X formula comes ready-to-use with no mixing or dilutions required.



Azure Chemi Blot Blocking Buffer



Milk

Part Number	Name	Description	Size
AC2148	Azure Chemi Blot Blocking Buffer	Provided as a 1x Ready-to-Use Solution	500mL

## AZURE PROTEIN-FREE BLOT BLOCKING BUFFER

### Protein-free solution for fluorescent immunoblots

Azure Protein-Free Blot Blocking Buffer is a protein-free blocking solution optimized for fluorescent Western blots. It also serves as an excellent blocking reagent for chemiluminescent Western blotting.

It can reduce background when used with primary antibodies that have a high degree of cross-reactivity with protein blockers such as BSA, casein or milk protein.

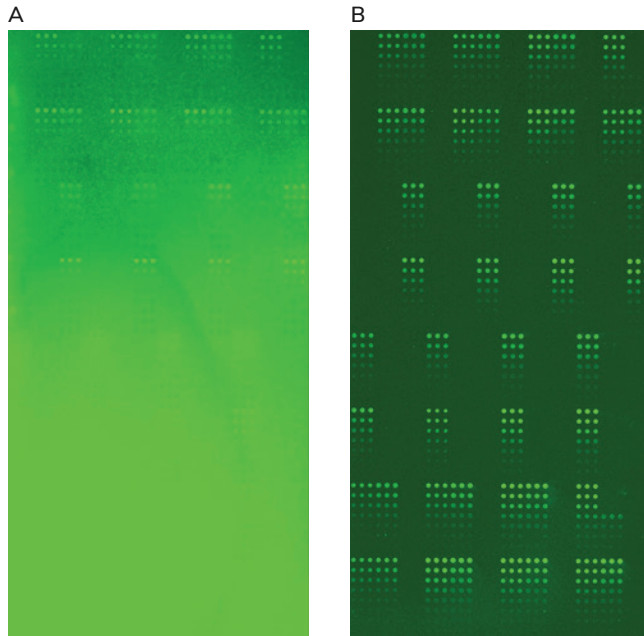


Part Number	Name	Description	Size
AC2112	Azure Protein-Free Blot Blocking Buffer	Provided as a 5x solution	200mL

# AZURE FLUORESCENT BLOT BLOCKING BUFFER

## Ready-to-use block that stabilizes fluorescent signal

Azure Fluorescent Blot Blocking Buffer is optimized for use with Azure's fluorescent Western blotting systems. The 1x solution is ready-to-use and formulated to lower background noise and stabilize fluorescent signal.



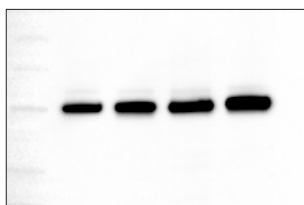
**Dramatic effect of blocking buffer on background and signal-to-noise ratio.** Duplicate dot blots were processed and imaged identically except for the blocking step which was either 5% nonfat dry milk in TBST (A) or Azure Protein-Free Blot Blocking Buffer (B).

Part Number	Name	Description	Size
AC2190	Azure Fluorescent Blot Blocking Buffer	Provided as a 1x Ready-to-Use Solution	500mL

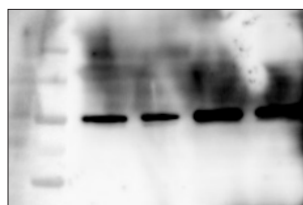
## AZURE BLOT WASHING BUFFER

### One wash for any Western blotting system

Azure Blot Washing Buffer can be used with any Western blotting system, including all chemiluminescent and visible fluorescent Western blotting kits. Provided as a 10x concentrate.



Good wash



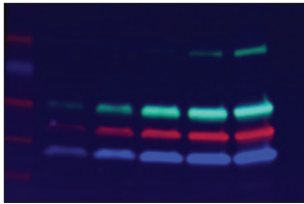
Insufficient wash

Part Number	Name	Description	Size
AC2113	Azure Blot Washing Buffer	Provided as a 10x concentrated solution	500mL

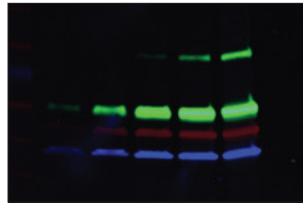
## AZURE FLUORESCENT BLOT WASHING BUFFER

### Washing buffer optimized for use with fluorescent secondary antibodies

Optimized for use with both visible and near-infrared fluorescent Western blots, Azure's Fluorescent Blot Washing Buffer is specially formulated to reduce non-specific binding of fluorescent secondary antibodies to produce clean blots with high signal-to-noise ratios.



Insufficient Washing



Azure Fluorescent Blot Washing Buffer

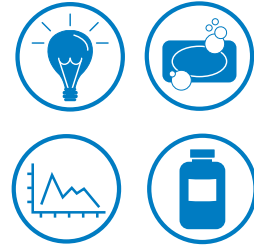
Part Number	Name	Description	Size
AC2145	Azure Fluorescent Blot Washing Buffer	Provided as a 10x solution	500mL



# RADIANCE™ SUBSTRATES

## Specialized chemiluminescent HRP substrates for CCD imaging

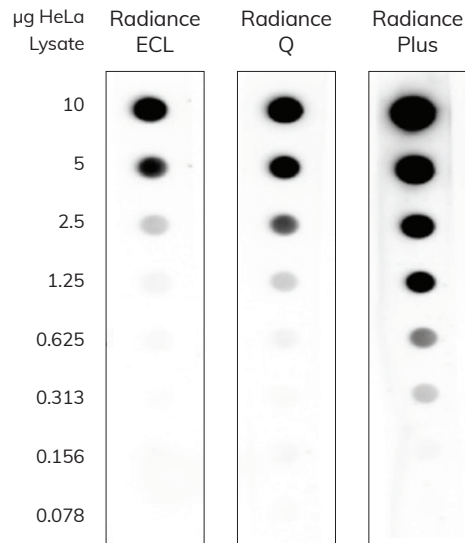
Radiance chemiluminescent horseradish peroxidase (HRP) substrates are specially formulated for CCD imaging and to provide excellent performance with Azure's cSeries imaging systems. Radiance substrates produce strong, long-lasting signal that is linear with respect to protein load.



Which substrate is right for you?



Radiance ECL	Radiance Q	Radiance Plus
<ul style="list-style-type: none"> <li>• Economical</li> <li>• Linear signal for quantitative Westerns</li> </ul>	<ul style="list-style-type: none"> <li>• Higher linear dynamic range for more reliable quantitation</li> <li>• Increased sensitivity</li> <li>• Extended signal longevity</li> </ul>	<ul style="list-style-type: none"> <li>• Ultra-high sensitivity for low abundance proteins</li> </ul>



A serial dilution of HeLa lysate was spotted on a membrane and identical dot blots were probed for GAPDH and detected using the Radiance Substrate indicated.

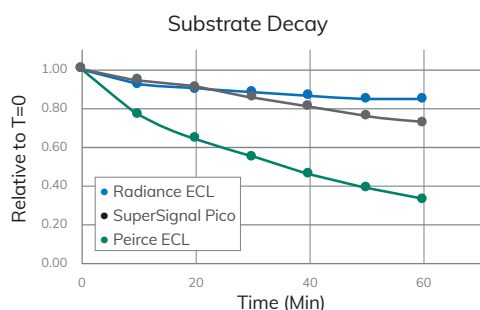
# RADIANCE™ ECL SUBSTRATE

## Chemiluminescent HRP substrate

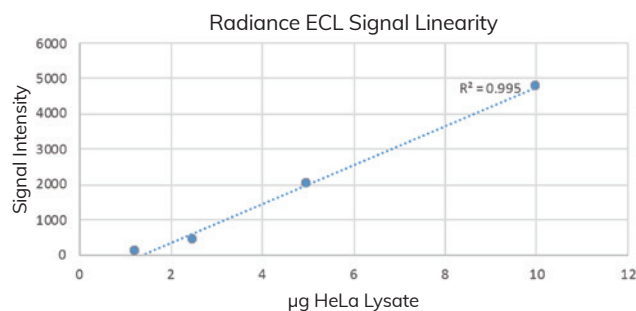
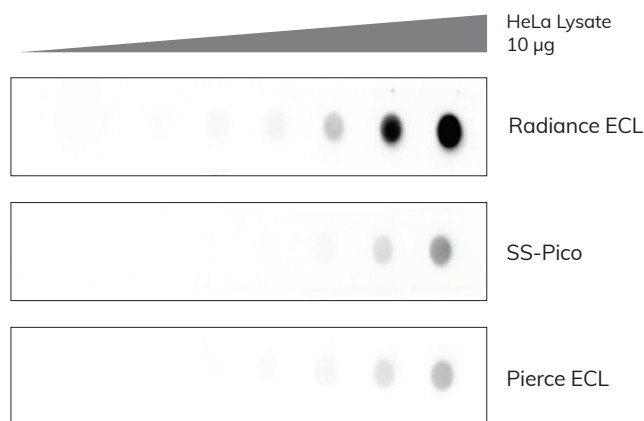
Radiance ECL is an enhanced chemiluminescent substrate specially developed for routine Western blotting. The strong signal and low background produces cleaner blots, allowing for more meaningful quantitative comparisons.

### Features

- Economical—well-suited for routine Western blotting
- Linear signal for more meaningful quantitative comparisons
- Long lasting signal



The blots pictured to the right were imaged at regular intervals up to sixty minutes, and the signal of the second spot is plotted above. Radiance ECL shows significantly less signal decay than other substrates.



A 1:1 serial dilution of HeLa lysate was spotted on a membrane and identical dot blots were probed for GAPDH and detected using the substrate indicated. The linearity of the Radiance ECL signal is shown on the bottom.

Part Number	Name	Name	Size
AC2204	Radiance ECL	Enhanced Chemiluminescent HRP Substrate	500mL

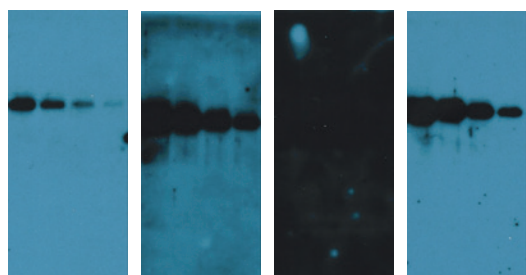
# RADIANCE™ Q SUBSTRATE

## Chemiluminescent substrate for quantitative chemiluminescent Westerns

Radiance Q chemiluminescent substrate is specially formulated for CCD imaging. This novel horseradish peroxidase (HRP) substrate provides a strong, long-lasting signal, the broadest useful linear range, and high sensitivity for the most quantitative chemiluminescent Western assays.

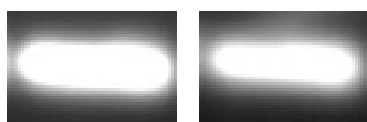
### Features

- Higher linear dynamic range for more reliable quantitation
- Increased sensitivity
- Extended signal longevity



Amersham ECL    Amersham ECL Plus    SuperSignal West Dura    Radiance

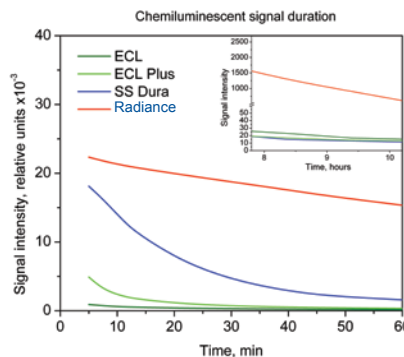
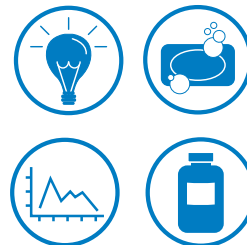
**Low background for broad useful linear dynamic range.** Extremely low background with Radiance. Replicate Western blots were developed using Radiance or one of three other chemiluminescent substrates. After a simultaneous 20 minute exposure to the same piece of film, Radiance displays the best combination of sensitivity and signal with low background. All display parameters are identical across all images shown in this figure.



5 min  
2 min exposure after  
substrate incubation

60 min  
2 min exposure after  
substrate incubation

**Long-lasting signal.** Radiance allows blots to be imaged several hours after substrate incubation. Blots can be re-imaged to obtain the perfect exposure, without worrying about signal decay. A blot was imaged with 2 min exposures at 5 min and 60 min after substrate incubation.



**Signal that endures.** Radiance produces the most stable chemiluminescent signal. Blots detected using Radiance or one of three other chemiluminescent substrates were re-imaged at several times over a 10 hour period. The intensity of one band is plotted. 60 minutes after substrate incubation, Radiance retains 70% of its initial signal strength, while the competition decays to 5% or less. Enjoy more flexibility in imaging blots, knowing the signal will not decay substantially over several hours. Also, long exposures can be conducted if needed to detect very low abundance bands.

Part Number	Name	Description	Size
AC2101	Radiance Q	HRP Substrate for CCD Imaging – contains substrate for 1500 cm <sup>2</sup> membrane	150ml

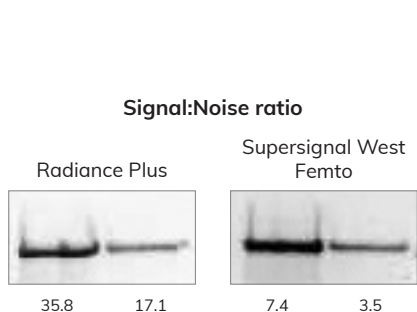
# RADIANCE™ PLUS SUBSTRATE

## Chemiluminescent substrate for the most sensitive Western blotting experiments

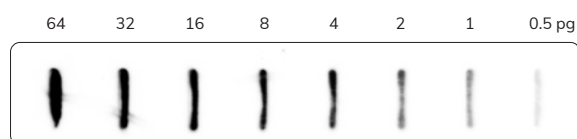
Radiance Plus is the most sensitive HRP substrate available from Azure for chemiluminescent Western blotting. With attomole sensitivity and a long-lasting signal, Radiance Plus allows you to detect bands not visualized with other substrates. High signal-to-noise and a large dynamic range make it ideal for quantifying low-intensity bands.

### Features

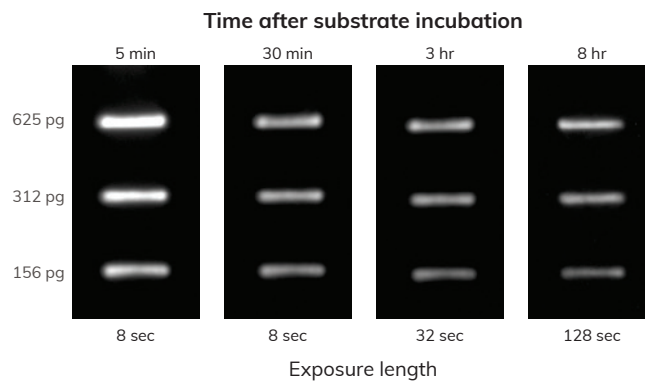
- Detect low-abundance proteins
- Low background for high signal-to-noise ratio
- Long-lasting signal



**Low background for better band quantification.** Radiance Plus provides sensitive detection combined with extremely low background. Duplicate Western blots were conducted to analyze samples of plasma, diluted either 1:100 (left lanes) or 1:600 (right lanes) in PBS. The blots were probed with a goat antisera primary antibody, and an HRP-conjugated secondary antibody. After detection with either Radiance Plus or SuperSignal® West Femto (Thermo Scientific), the blots were imaged for 8.3 minutes. The signal-to-noise ratio is shown for each band.



**The highest sensitivity.** A slot blot containing serial dilutions of an HRP-conjugated antibody was incubated with Radiance Plus and detected with a 2-minute exposure time.



**Image blots hours after substrate incubation.** A slot blot containing a serial dilution of an HRP-conjugated antibody was incubated with Radiance Plus and imaged at the times indicated. After 8 hours, the bands are still easily detected with only a 2-minute exposure.

Part Number	Name	Description	Size
AC2103	Radiance Plus	Femtogram-sensitivity HRP Substrate – contains substrate for 1500 cm <sup>2</sup> membrane	150ml

# AZURE FLASH WESTERN CHEMILUMINESCENCE KIT

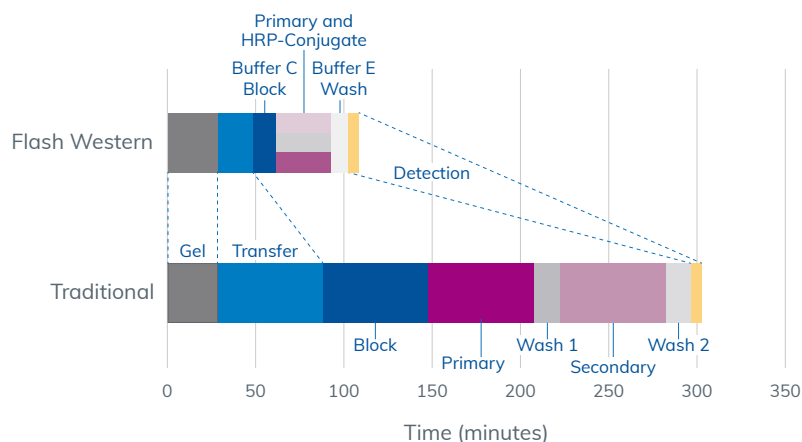
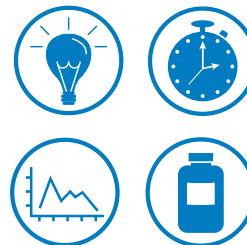
## Run an entire Western blot from gel through imaging in just 2 hours

The Azure Flash Western Kit uses a proprietary set of reagents to achieve complete membrane blocking, rapid hybridization of antibodies, and enhancement of chemi signal in less than an hour of blotting time. Combine with Azure Transfer Buffer (AC2127) to cut wet transfer time down to 15- to 30-minutes for a total assay time of two hours from gel to imaging.



### Features

- Fast protocol with few hands-on steps
- Antibody stabilization for enhanced chemi signal
- Low background and increased signal-to-noise ratios
- Increased detection sensitivity and linear dynamic range



**Time savings.** Note: Flash Western graph includes use of Azure Transfer Buffer in light blue.

Antibody	Sample Type	Azure Flash Western (1 hr)	Traditional Western (6 hrs)
STAT-3	Untreated HeLa		
pSTAT-3	IFN $\alpha$ HeLa		
HSP60	Untreated HeLa		

**Rapid protocol with low background and high sensitivity.** Replicate Western blots were performed using the Azure Flash Western Chemiluminescence Kit and a traditional Western blot protocol. Each blot shows a dilution series of the same sample. The Azure Flash Western Kit produced more sensitive detection than the traditional protocol with over 90% of antibodies (while STAT-3 and pSTAT-3 demonstrate the improved data quality possible with the Azure Flash Western Kit, the HSP60 antibody is an example of an antibody with similar performance).

Part Number	Name	Size
AC2220	Azure Flash Western Chemiluminescence Kit, Rabbit	1 Kit
AC2221	Azure Flash Western Chemiluminescence Kit, Mouse	1 Kit

Each Flash Western Chemiluminescence Kit contains enough materials to perform ten chemiluminescent Western blots and includes PVDF membranes, Blocking Buffer, Flash HRP-conjugate, Flash Wash Buffer, and Radiance ECL Substrate.

## HRP-CONJUGATED SECONDARY ANTIBODIES

### For chemiluminescent immunodetection

Azure's high-quality HRP-conjugated secondary antibodies offer unparalleled sensitivity and performance for immunoblotting and ELISA applications. These secondary HRP conjugated antibodies are optimized to work with Azure's Radiance substrates.



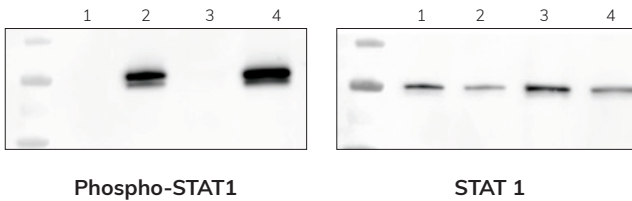
Part Number	Name		Size
AC2114	Goat-anti-rabbit HRP secondary antibody	HRP conjugated secondary antibody for chemiluminescent Westerns	500 µl
AC2115	Goat-anti-mouse HRP secondary antibody	HRP conjugated secondary antibody for chemiluminescent Westerns	500 µl
AC2116	Goat-anti-human HRP secondary antibody	HRP conjugated secondary antibody for chemiluminescent Westerns	500 µl
AC2117	Goat-anti-chicken HRP secondary antibody	HRP conjugated secondary antibody for chemiluminescent Westerns	500 µl
AC2118	Goat-anti-rat HRP secondary antibody	HRP conjugated secondary antibody for chemiluminescent Westerns	500 µl
AC2119	Goat-anti-guinea pig HRP secondary antibody	HRP conjugated secondary antibody for chemiluminescent Westerns	500 µl
AC2149	Donkey-anti-goat HRP secondary antibody	HRP conjugated secondary antibody for chemiluminescent Westerns	500 µl



# HRP STRIPPING BUFFER

## Stripping buffer for chemiluminescent Western blots

Uniformly removes antibodies from developed HRP Western blots so the blot can be reprobed with another set of antibodies.



Blot was probed for phospho-STAT1 then stripped and reprobed for STAT1. Lanes: Ladder, 1) 10 µg untreated HeLa lysate, 2) 10 µg IFN $\alpha$ -treated, 3) 20 µg untreated, 4) 20 µg IFN $\alpha$ -treated.

Part Number	Name		Size
AC2154	HRP Stripping Buffer	Provided as a 1x Ready-to-Use Solution	500mL

# AZURE CHEMIWRITER ECL

## Chemiluminescent pen for blot annotation

A chemiluminescent marker that enables you to write or draw on your transfer membranes, resulting in a chemiluminescent signal on your markings once substrate is added.



### Tips

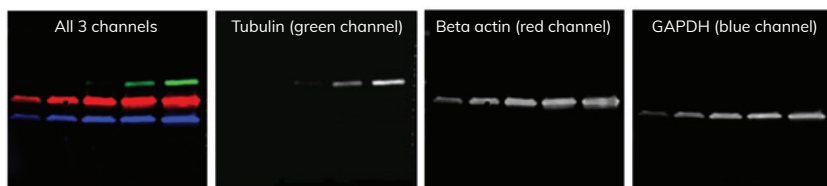
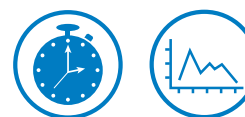
- The ChemiWriter ink contains a reagent that reacts with HRP substrates to produce chemiluminescence and also a blue dye to allow you to see markings as you write on the blot.
- There are two heads to the pen, a fine point tip and a thicker chisel point tip. We recommend using the fine point tip to annotate the blot and mark protein ladders for detection.
- The chisel point of the pen can be used to deposit an increased amount of reagent on the blot for more intense signal.
- For best results we recommend annotating your blot after transfer and before starting your Western blotting protocol.
- Once annotated, the blot may be stored dry or wet, refrigerated or at room temperature. The Azure ChemiWriter ECL reagent and blue ink markings on the blot are stable for at least 3 months.
- The ChemiWriter should be stored tightly closed at room temperature.

Part Number	Name	Description	Size
AC2146	Azure ChemiWriter ECL	Chemiluminescent pen for blot annotation	1 pen

# AZURESPECTRA LABELING KITS

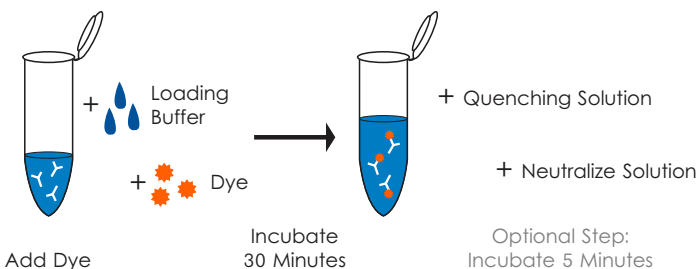
## Fast and simple antibody labeling

- **Easy and fast**—The fluorescent antibody labeling kit provides the materials necessary to fluorescently label the antibody of your choice in less than 1 hour
- **Label primary antibodies**—use antibodies that your lab has already validated and optimized. Labeled primary antibodies can then be used for direct Westerns.
- **Label secondary antibodies**—secondary antibodies can be labeled for traditional indirect Western blot applications
- **Choose from 5 dyes**—the non-overlapping emission spectra of the fluorophores available for labeling means you can easily perform multiplexing

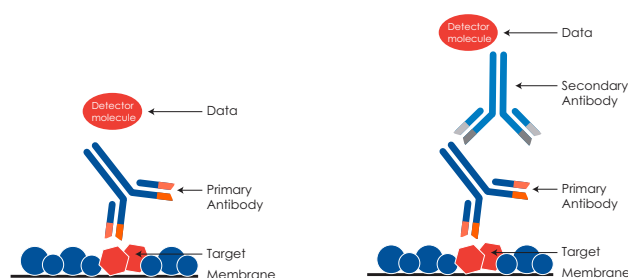


	Excitation max. (nm)	Emission max. (nm)
• Dye-490	491	515
• Dye-550	551	565
• Dye-650	653	672
• Dye-IR700	692	709
• Dye-IR800	783	800

**Perform multiplexing assays quick and easily.** Fluorescent Western blot imaged with Azure c600. Secondary antibodies were labeled with the AzureSpectra labeling kit: anti-rabbit with AzureSpectra 700, anti-mouse with AzureSpectra 550, and anti-rat with AzureSpectra 800. Primary antibodies used were rat anti-tubulin, rabbit anti-beta actin, and mouse anti-GAPDH.



**Simple labeling protocol.**



**Direct.** Primary antibody is labeled.

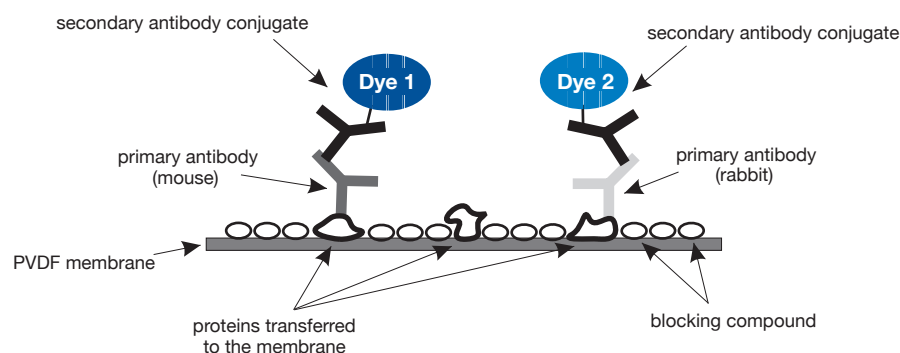
**Indirect.** Secondary antibody is labeled.

Part Number	Name	Description	Size
AC2185	AzureSpectra Labeling Kit – 490		1 kit
AC2186	AzureSpectra Labeling Kit – 550	Each kit includes sufficient reagents for labeling of 2 x 50 µg of antibody: Labeling Buffer, Dye solution, Quenching solution, Neutralization buffer, Two G-25 columns	1 kit
AC2187	AzureSpectra Labeling Kit – 650		1 kit
AC2188	AzureSpectra Labeling Kit – 700		1 kit
AC2189	AzureSpectra Labeling Kit – 800		1 kit

# AZURESPECTRA FLUORESCENT WESTERN BLOTTING KITS

## Full kits for two-color fluorescent Western blots

AzureSpectra Western Blotting Kits provide everything you need to perform two-color fluorescent Western blots. Each kit includes pre-cut membranes, wash buffer, blocking buffer, quenching sheets, and secondary antibodies to detect two proteins per experiment. Offered with Protein-Free Block or Fluorescent Block.



**Two-color Western blotting.** Using secondary antibodies labeled with different fluorophores, two proteins can be detected on a single blot by controlling excitation and detection channels (a). AzureSpectra conjugates incorporate the phycobiliproteins allophycocyanin (APC) and R-phycoerythrin (RPE), extremely bright fluorescent proteins from cyanobacteria and eukaryotic algae (b,c). AzureSpectra IR conjugates incorporate IR700 and IR800 fluorescent dyes with near-infrared excitation and emission wavelengths (d,e).

Part Number	Name	Description	Size
AC2140	AzureSpectra rb700/ms800 Western Kit, with Protein Free Block	Kit contains materials for 10 Western Blots: PVDF membranes, wash buffer, protein free blocking buffer, secondary antibodies AzureSpectra rb700/ms800	1 kit
AC2141	AzureSpectra ms700/rb800 Western Kit, with Protein Free Block	Kit contains materials for 10 Western Blots: PVDF membranes, wash buffer, protein free blocking buffer, secondary antibodies AzureSpectra ms700/rb800	1 kit
AC2104	AzureSpectra rb700/ms800 Western Kit, with Protein Free Block	Kit contains materials for 10 Western Blots: PVDF membranes, wash buffer, protein free blocking buffer, secondary antibodies rb650/ms550	1 kit
AC2191	AzureSpectra rb700/ms800 Western Kit, with Fluorescent Block	Kit contains materials for 10 Western Blots: PVDF membranes, wash buffer, fluorescent blocking buffer, secondary antibodies AzureSpectra rb700/ms800	1 kit
AC2192	AzureSpectra ms700/rb800 Western Kit, with Fluorescent Block	Kit contains materials for 10 Western Blots: PVDF membranes, wash buffer, fluorescent blocking buffer, secondary antibodies AzureSpectra ms700/rb800	1 kit
AC2193	AzureSpectra rb650/ms550 Western Kit, with Fluorescent Block	Kit contains materials for 10 Western Blots: PVDF membranes, wash buffer, fluorescent blocking buffer, secondary antibodies AzureSpectra rb650/ms550	1 kit

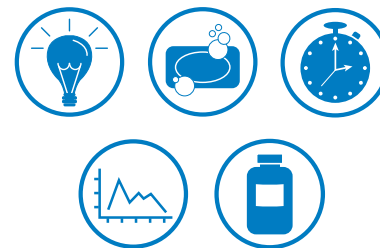
## AZURESPECTRA FLUORESCENT DEMO KITS

### New to fluorescent Western blotting?

Azure's Fluorescent Demo Kits contain everything you need to perform a single color fluorescent Western using your sample and primary antibodies.

#### Each kit contains enough material for 1 Western blot

- 9x7cm Low Fluorescence PVDF membrane
- 10x Fluorescent Blot Washing Buffer, 30mL
- 1x Fluorescent Blot Blocking Buffer, 30mL
- Secondary Antibody, 4 $\mu$ L
- Background Quenching Sheets, 2 sheets

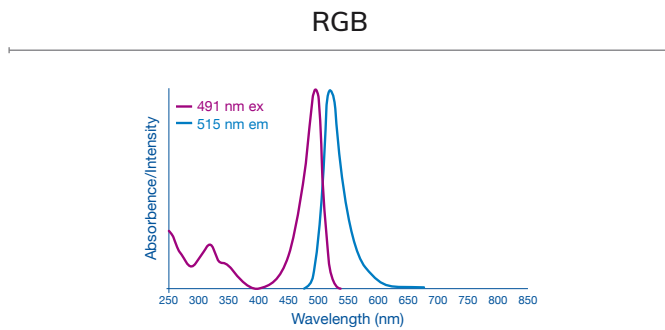


Part Number	Name	Description	Size
AC2172	Azure Spectra Demo Kit – Goat Anti Mouse 700	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-mouse 700 secondary antibody	1 kit
AC2173	Azure Spectra Demo Kit – Goat Anti Rabbit 700	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-rabbit 700 secondary antibody	1 kit
AC2174	Azure Spectra Demo Kit – Goat Anti Mouse 800	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-mouse 800 secondary antibody	1 kit
AC2175	Azure Spectra Demo Kit – Goat Anti Rabbit 800	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-rabbit 800 secondary antibody	1 kit
AC2176	Azure Spectra Demo Kit – Goat Anti Mouse 650	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-mouse 650 secondary antibody	1 kit
AC2177	Azure Spectra Demo Kit – Goat Anti Rabbit 650	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-rabbit 650 secondary antibody	1 kit
AC2178	Azure Spectra Demo Kit – Goat Anti Mouse 550	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-mouse 550 secondary antibody	1 kit
AC2179	Azure Spectra Demo Kit – Goat Anti Rabbit 550	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-rabbit 550 secondary antibody	1 kit
AC2218	Azure Spectra Demo Kit – Goat Anti Mouse 490	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-mouse 490 secondary antibody	1 kit
AC2219	Azure Spectra Demo Kit – Goat Anti Rabbit 490	Kit contains 1 PVDF membrane, blocking buffer, wash buffer, goat anti-rabbit 490 secondary antibody	1 kit

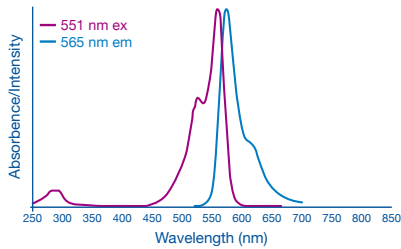
# AZURESPECTRA FLUORESCENT SECONDARY ANTIBODIES

## Visible and near-IR fluorescently labeled secondary antibodies

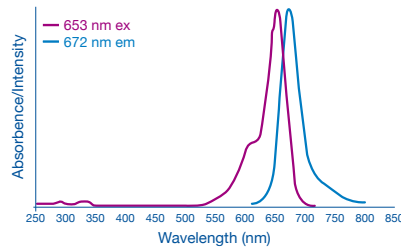
Azure offers secondary antibodies labeled with fluorophores that emit light in visible and near-infrared wavelengths. AzureSpectra 490, 550, 650, 700 and 800 secondary antibodies offer unparalleled sensitivity and performance for immunoblotting applications when used in conjunction with Azure's Western blotting systems.



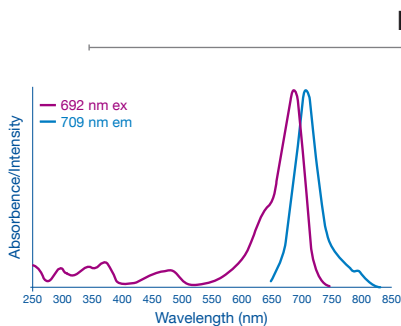
**AzureSpectra 490**



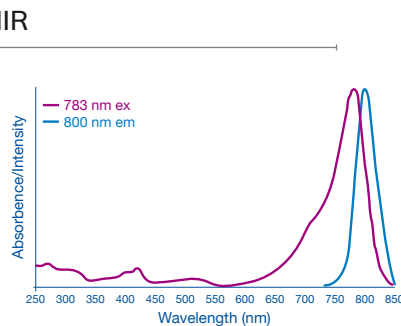
**AzureSpectra 550**



**AzureSpectra 650**

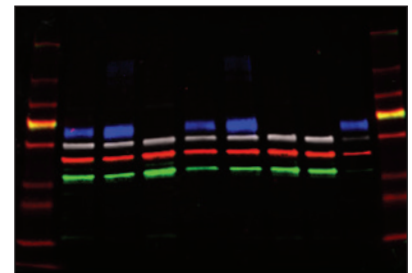


**AzureSpectra 700**



**AzureSpectra 800**

	Excitation max. (nm)	Emission max. (nm)
● Dye-490	491	515
● Dye-550	551	565
● Dye-650	653	672
● Dye-IR700	692	709
● Dye-IR800	783	800



- AzureSpectra 490**  
anti-Transferrin (directly labeled)
- AzureSpectra 550**  
goat anti-rat, Tubulin
- AzureSpectra 700**  
goat anti-rabbit, beta-Actin
- AzureSpectra 800**  
goat anti-chicken, GAPDH

## AZURESPECTRA FLUORESCENT SECONDARY ANTIBODIES

Part Number	Name		Size
AC2206	AzureSpectra 490	Goat-anti-rabbit secondary antibody	250mg
AC2207	AzureSpectra 490	Goat-anti-mouse secondary antibody	250mg
AC2208	AzureSpectra 490	Goat-anti-human secondary antibody	250mg
AC2209	AzureSpectra 490	Goat-anti-chicken secondary antibody	250mg
AC2210	AzureSpectra 490	Goat-anti-rat secondary antibody	250mg
AC2211	AzureSpectra 490	Goat-anti-guinea pig secondary antibody	250mg
AC2217	AzureSpectra 490	Donkey-anti-goat secondary antibody	250mg
AC2158	AzureSpectra 550	Goat-anti-rabbit secondary antibody	250mg
AC2159	AzureSpectra 550	Goat-anti-mouse secondary antibody	250mg
AC2160	AzureSpectra 550	Goat-anti-human secondary antibody	250mg
AC2161	AzureSpectra 550	Goat-anti-chicken secondary antibody	250mg
AC2162	AzureSpectra 550	Goat-anti-rat secondary antibody	250mg
AC2163	AzureSpectra 550	Goat-anti-guinea pig secondary antibody	250mg
AC2164	AzureSpectra 550	Donkey-anti-goat secondary antibody	250mg
AC2165	AzureSpectra 650	Goat-anti-rabbit secondary antibody	250mg
AC2166	AzureSpectra 650	Goat-anti-mouse secondary antibody	250mg
AC2167	AzureSpectra 650	Goat-anti-human secondary antibody	250mg
AC2168	AzureSpectra 650	Goat-anti-chicken secondary antibody	250mg
AC2169	AzureSpectra 650	Goat-anti-rat secondary antibody	250mg
AC2170	AzureSpectra 650	Goat-anti-guinea pig secondary antibody	250mg
AC2171	AzureSpectra 650	Donkey-anti-goat secondary antibody	250mg
AC2128	AzureSpectra 700	Goat-anti-rabbit secondary antibody	250mg
AC2129	AzureSpectra 700	Goat-anti-mouse secondary antibody	250mg
AC2130	AzureSpectra 700	Goat-anti-human secondary antibody	250mg
AC2131	AzureSpectra 700	Goat-anti-chicken secondary antibody	250mg
AC2132	AzureSpectra 700	Goat-anti-rat secondary antibody	250mg
AC2133	AzureSpectra 700	Goat-anti-guinea pig secondary antibody	250mg
AC2156	AzureSpectra 700	Donkey-anti-goat secondary antibody	250mg
AC2134	AzureSpectra 800	Goat-anti-rabbit secondary antibody	250mg
AC2135	AzureSpectra 800	Goat-anti-mouse secondary antibody	250mg
AC2136	AzureSpectra 800	Goat-anti-human secondary antibody	250mg
AC2137	AzureSpectra 800	Goat-anti-chicken secondary antibody	250mg
AC2138	AzureSpectra 800	Goat-anti-rat secondary antibody	250mg
AC2139	AzureSpectra 800	Goat-anti-guinea pig secondary antibody	250mg
AC2157	AzureSpectra 800	Donkey-anti-goat secondary antibody	250mg

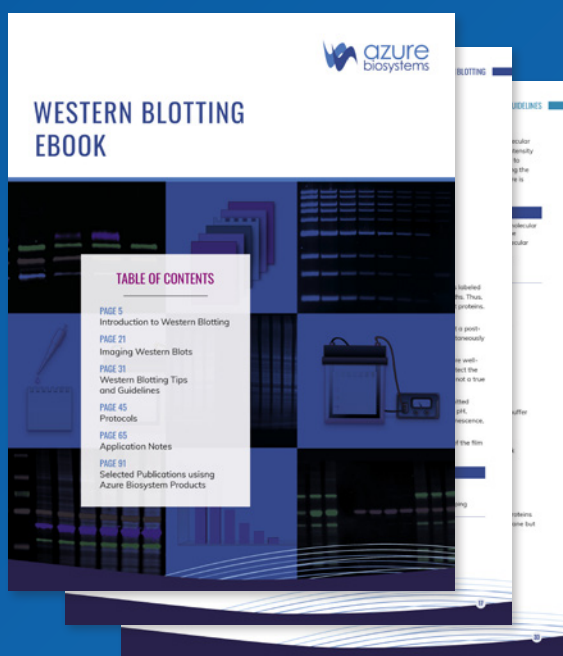






# NEW TO WESTERN BLOTTING? NEED TO TROUBLESHOOT YOUR WESTERN BLOT? WANT TO BRUSH UP ON WESTERN BLOTTING BEST PRACTICES?

Take a look at our FREE “2022 Western Blotting eBook” for the latest on fluorescent and chemiluminescent Western blots.



## Complete Technical Manual

- Protocols
- Tips and tricks
- Troubleshooting
- MORE



**GET THE EBOOK**

[azurebiosystems.com/guidebook](https://azurebiosystems.com/guidebook)



[www.azurebiosystems.com](http://www.azurebiosystems.com) • [info@azurebiosystems.com](mailto:info@azurebiosystems.com)

Copyright © 2022 Azure Biosystems. All rights reserved. The Azure Biosystems logo, Azure Biosystems®, Cielo™, Radiance™, and Sapphire™ are trademarks of Azure Biosystems, Inc. More information about Azure Biosystems intellectual property assets, including patents, trademarks and copyrights, is available at [www.azurebiosystems.com](http://www.azurebiosystems.com) or by contacting us by phone or email. All other trademarks are property of their respective owners.

MM-0053 R1