

NeoChemi FL Mini 9 #Cat :NB-12-9010



Real Imaging For Real Scientists

Western blot and gel imaging remain the cornerstones of life science research. With so many ways to image chemiluminescent, fluorescent and visible dyes you need to know which gives you real results.

At Neo Biotech, our full focus is directed at only developing imaging systems. We have been doing this for over 30 years. We have full control over all processes from being part of an organization that owns the CCD camera manufacturing company to developing hardware and writing our own software in-house. We listen to scientists and then, using our extensive understanding of the science of imaging, we deliver high performance automation that's quick and simple for everyone in the laboratory to use. **See your research through our technology - your blot and gel images will never look better.**

Powerful

Built on the successful **Neochemi** range, the **Neochemi fl mini** is a compact, multi-application powerhouse for accurately imaging fluorescence and visible gels, multiplexed fluorescence westerns, stain-free gels and chemiluminescent blots. Fully integrated with single click computer controlled intuitive GeneSys software, you'll get great results every time.

Fast

Neochemi fl mini features the option to use not just white LEDs but multi-color, UV, blue, green, red, far red and infra-red high intensity LEDs which are up to 200 times brighter than standard LEDs, giving you faster captures and brilliant multiplexed fluorescence images.

Accurate

Combining a unique motorized stage and cooled, high resolution 6 or 9-megapixel camera means your **Neochemi fl mini** can generate true-to-life, accurate optical images, not just digitally enhanced ones. With a **Neochemi fl mini** you'll be able to distinguish between close chemi and fluorescent bands or spots even on complex gels and know they're really part of your data.



Future-Proof

With our guarantee of free software upgrades not just today but throughout your system's life, your **Neochemi** will always have the latest imaging capabilities as new techniques come into the working lab.

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Top Imaging From Top Technology



LUXURY LENS

Great images start with a great lens and this F/0.95 motor driven lens with data feedback and automated focus is the best. Using GeneSys software, the Neochemi fl mini easily controls lens aperture size, focus and zoom to get the results you want to see



HIGH RESOLUTION CAMERAS

Choose between a super-high 6 or 9-megapixel resolution camera. These work hard over a range of wavelengths to ensure you'll separate those close fluorescent bands and spots even on 2D gels.



SUPER LOW COOLING

Superior Peltier cooling of the camera lets you increase exposure times to detect your faint chemiluminescence without adding annoying background noise.



FILTER CHOICE

A 7-position motor-driven filter wheel controlled by GeneSys software allows you to add the filter for the fluorescent stain you like to work with. Since imaging ethidium bromide[®] and SYBR stained DNA gels are common, we've even included a UV filter to get you started



REAL IMAGING STAGE

When you're working with smaller and low light emitting gels and blots, an automatic motor driven stage with automated focus is brilliant because it lets you get your samples closer to the camera, generating true-to-life optical images and not just digitally enhanced copies.



TOTAL CONTROL

Easily integrating a Neochemi fl mini to your choice of PC and printer gives you greater flexibility than using an integrated tablet, allowing you to run the GeneSys touch screen controls on a large screen, store a large number of images and rapidly print low resolution all the way up to publication quality pictures.

Right Lighting, Right Application



WHITE LIGHT

To position your samples, see visibly stained blots and colored markers on Westerns, the Neochemi fl mini comes with overhead environmentally-friendly, long-life white LED EPI lighting.

Hi-Led Epi Lighting Options

When imaging multiplex fluorescent gels and blot, you have a range of HI-LED channels, including red, blue, green, IR, far red and UV. HI-LEDs are up to 200 times brighter than standard LEDs, giving you faster exposure times and great images in just one click, making the Neochemi fl mini an unrivalled, cost-effective alternative to laser-based technology.



For more information on HI-LEDs, see the website

Uv Transilluminator Option

If you simply need to see ethidium bromide stained DNA gels and stain-free protein gels then opt for the slide in and out, easy access 302nm UV transilluminator. 254nm and 365nm wavelengths are also available

Visible Transmitted Light Options

For viewing Coomassie Blue, silver stain and other visible stained gels, a conversion screen which you can place over the UV transilluminator to produce a large, evenly illuminated white light is available

Blue Light Converter Screen

For viewing 'safer' fluorescent dyes such as SYBR Safe, you can choose to illuminate with the optional blue conversion screen which sits over the UV transilluminator producing trans-blue illumination at 465nm UltraSlim Blue LED transilluminator.

Genesys Software Load And Go Imaging

Neochemi fl mini is powered by GeneSys 'application driven' image capture software containing an extensive database of dyes, stain-free options and imaging protocols. For quick and easy imaging with a Neochemi fl mini, all you need to know is the size and type of gel or blot you're using and GeneSys automatically selects the right lighting, filters and focus for you to get the perfect image

CUSTOMIZABLE SETTINGS

If you prefer to choose your own settings, you can even use GeneSys in manual mode. Alternatively, if you're running several repeat applications and want to automate the image capture, you can save a protocol of sample type, dyes, lighting, filters, focus and sample size to set up one button quick image capture.

VERSATILE MULTIPLEXING

Using GeneSys in the Neochemi fl mini you can image up to four different fluorophores per experiment and you can choose to see them as a multi-color image, as a color overlay or as single images making it easier for you to find the information you want from your gel or blot.

Select gel or blot or manual mode

Choose from any saved configurations for faster imaging



Sensitive Westerns

When you're imaging low light chemiluminescence Western blots, you can use the GeneSys binning feature to reduce exposure times or increase sensitivity. Binning combines pixels into 2x2, 3x3, 4x4, 5x5 or 6x6 formats to produce a "super pixel" which collects more light, increasing sensitivity or speeding up image capture time. GeneSys also lets you generate one image or a series of timed images of your Westerns. You can even image visible/rainbow molecular weight markers and automatically overlay them on your chemiluminescent image making sure that you have perfect Western blot images every time.

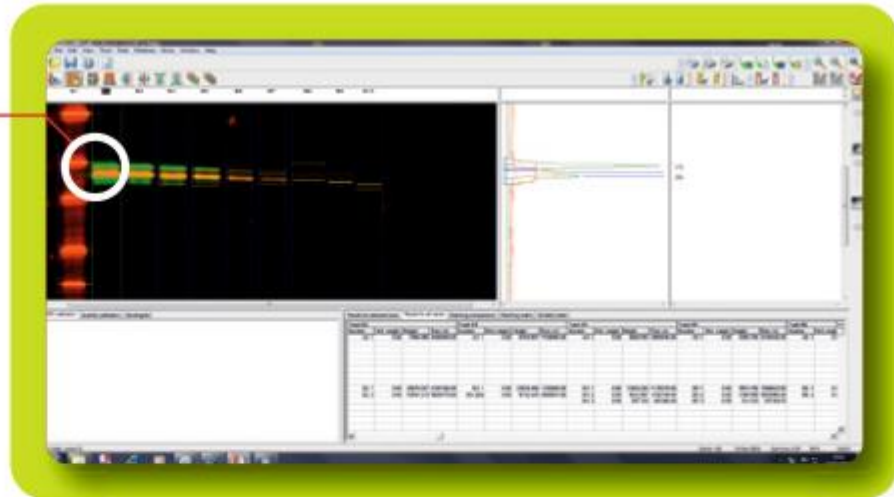
PICTURE PERFECT

The Neochemi fl mini comes with a calibrated camera which automatically eliminates hot pixels or imperfections, generating a clear background free from 'speckles' or 'spots'. The GeneSys software includes Dynamic Fielding to automatically correct white light shadows, producing a perfect 'flat' background and auto gamma control to automatically set the black and white levels, improving definition between bands or spots and image background. The high resolution 6 or 9 MP cameras will produce superb, publication ready pictures of your results and can save as proprietary SGD or TIFF, JPEG or BMP formats.

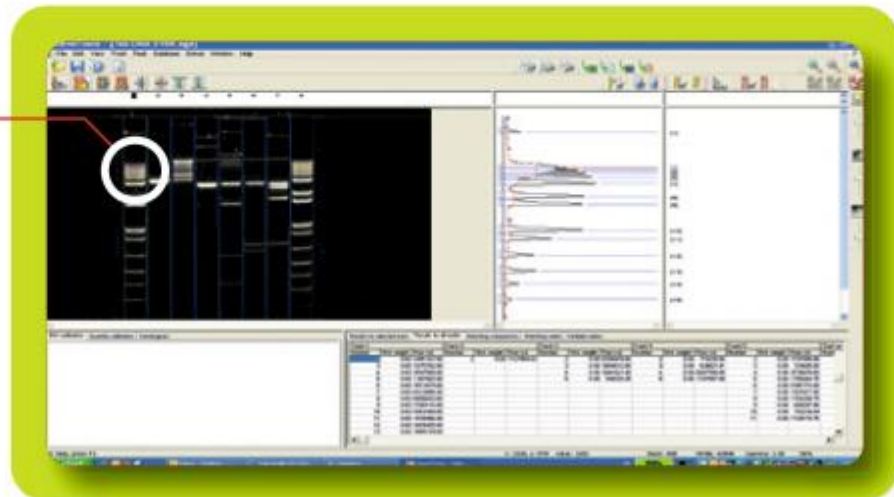
Genetools Fast Image Analysis

The Neochemi fl mini uses GeneTools image analysis software to let you rapidly detect lanes and bands, view densitometry profiles, providing superb quality data from your collected images. With multiplexed gels and blots you can even analyze overlaid channels to find bands in separate channels, at the same time as viewing individual channels. Your data is easily saved as image files or can be exported directly to Excel and Word.

Accurately quantify a multiplexed Western blot using GeneTools



Automatically detect lanes and bands and easily add molecular weight ladders with GeneTools



“IT HAS NEVER BEEN EASIER TO ANALYZE GELS OR MULTIPLEXED BLOTS”

APPLICATIONS INCLUDE: • 1-D gel analysis • MW/BP calculation • Multiplexed gels and blots • E-gels • Colony counting • Adding molecular weight ladders • Band matching with dendrograms • Spot blots, slot blots • Band quantitation (automatic and manual) • GeneDirectory (option) for extended band matching, cluster analysis, VNTR analysis, genotyping, RFLP studies, dendrogram generation and bootstrapping.

What Do You Want To Image?

The Neochemi fl mini is so versatile that the system can image any of these fluorescence, chemiluminescence and visible applications: • Chemiluminescence Western blots • X-ray films of chemiluminescent blots • DNA or RNA stained with ethidium bromide, SYPRO or SYBR dyes on agarose gels • Coomassie blue, Texas Red or silver stained proteins on acrylamide gels • Stain-free gels • Fluorescent blots stained with Qdots, DyLight, Alexa Fluor, Cy Dyes, and IR dyes • GFPs • Colonies or plaques on agar plates

Time-Saving Multiplexing

Using a Neoechemi fl mini you can capture a broad dynamic range of fluorescence, giving you exceptional linearity and accurate quantification. The GeneSys software helps you easily detect up to four different fluorophores on the same gel or blot and automatically overlays data from each channel, while letting you view individual channels to see where bands overlap. You can normalize band intensity values to another protein or loading control so you can save time by using the same blot without having to strip and re-probe.

ENHANCING YOUR MULTIPLEXING IMAGING CAPABILITIES

Using a combination of different fluorescent dyes in conjunction with our excitation light sources and filter combination will allow you to multiplex up to four colors, permitting you to study several proteins on the same blot

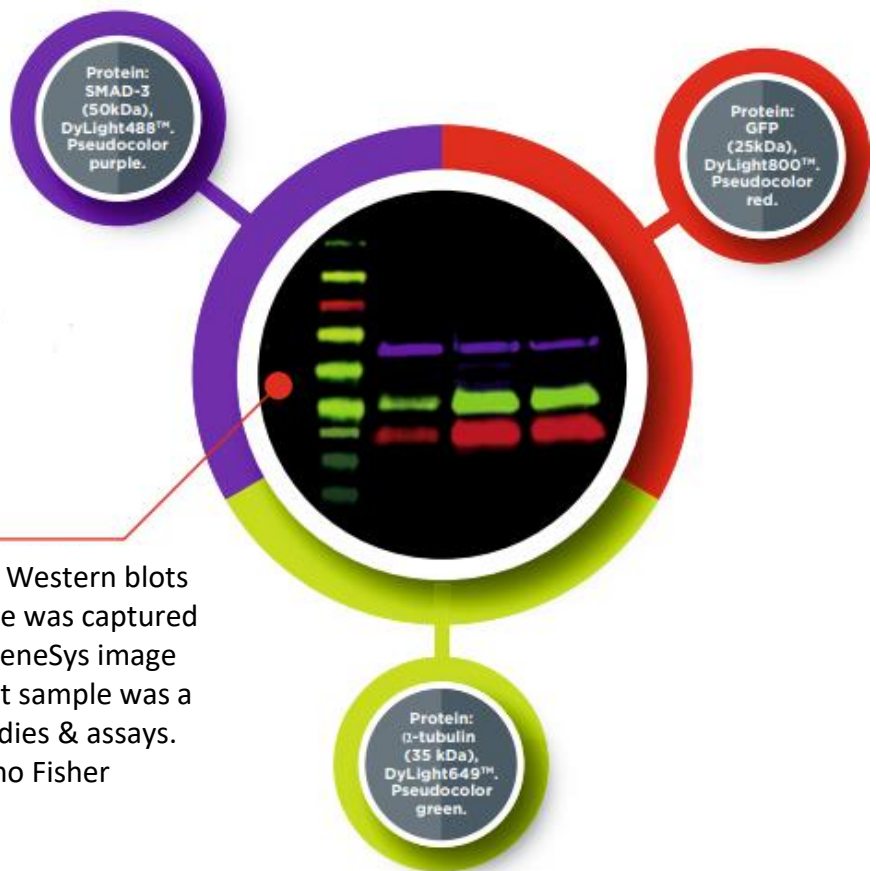


Figure 1 – Multiplexed Fluorescent Western blots
The multiplexed western blot image was captured using a NB-12-9009 system with GeneSys image capture software. The Western blot sample was a TM courtesy from Rockland antibodies & assays. DyLight™ is a trademark of Thermo Fisher Scientific Inc.

Smart Chemiluminescence

When you're imaging chemiluminescence blots it's often difficult to get the right exposure time. Using GeneSys, you can set the Neoechemi fl mini to give you the optimum exposure depending on whether you want a quick or a high-quality image. Since the dynamic range of the Neoechemi fl mini is better than X-ray film you'll get more accurate quantifiable data too. You can even capture images of visible protein markers and using GeneSys you can overlay them automatically on your chemiluminescent image to make your molecular weight calculations easier.

Figure 2 - Chemiluminescence Western blot
 SDS PAGE: SERVAGel TG PRiME 8% Blotting:
 Xpress PVDF Blotting-Kit Transferrin diluted
 2-fold (5.0ng – 4.8pg) 1st AB a-human-
 Transferrin, 2nd AB a-rabbit-IgG-HRP
 SERVALight Polaris CL HRP WB Substrate.
 The image was captured on a NB-12-9009



SIMPLE STAIN-FREE IMAGING

The Neochemi fl mini comes with pre-set stain-free imaging protocol in the GeneSys software so you can rapidly capture perfect accurate images of your protein gels without all the hassle of staining and de-staining using dyes such as Coomassie Blue.

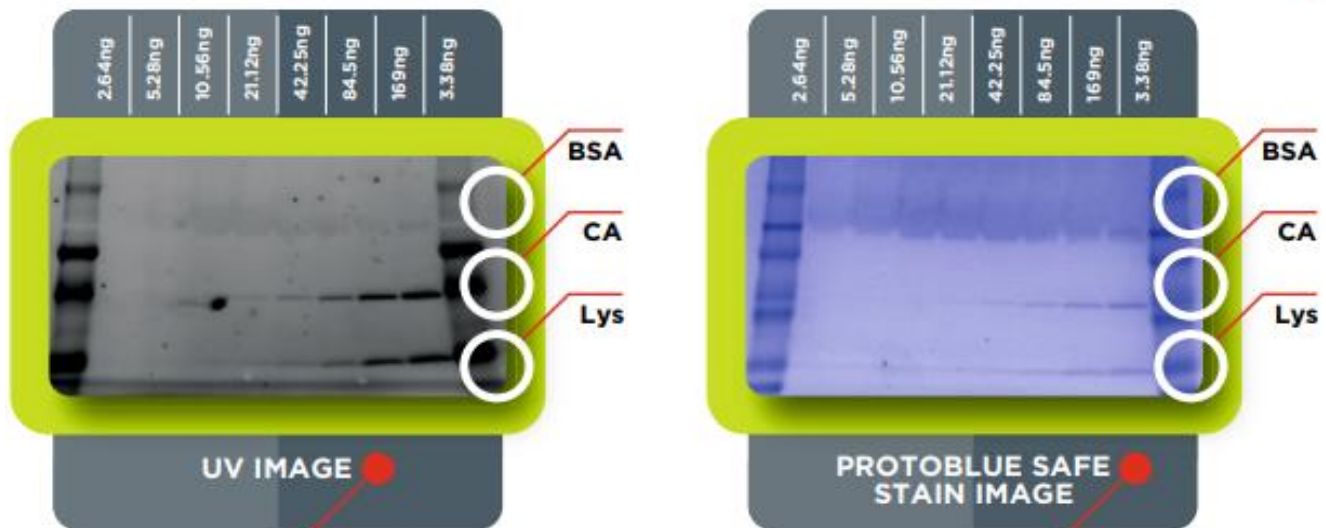


Figure 3 - Stain-free gel compared to ProtoBlue safe stained protein gel Serial dilutions (338-2.64ng) of a protein mixture (BSA, Carbonic anhydrase and Lysozyme) were run on a Criterion 4-20% TGX Stain-Free gel and imaged with UV on a NB-12-9009 system and additionally stained with ProtoBlue Safe stain. The linearity and sensitivity of the stain-free method is comparable to the ProtoBlue Safe stain method.

Specification



| SYSTEM | NB-12-9009 | NB-12-9010 |
|--|--|--|
| Image resolution (megapixels) | 6 | 9 |
| Effective resolution (megapixels) | 18 | 27 |
| A/D | 16 bit | 16 bit |
| Greyscale | 65,536 | 65,536 |
| Quantum Efficiency (@ 425nm) | 73% | 73% |
| Lens (motor driven) | F0.95 | F0.95 |
| Motor drive Stage | True optical imaging | True optical imaging |
| Filter wheel (7-position motor driven) | Yes | Yes |
| UV filter | Yes | Yes |
| Use with external PC and printer (not included) | Yes | Yes |
| LIGHTING | | |
| Epi LED White Lights | Yes | Yes |
| HI-LED (UV, Blue, Green, Red, Far Red, Infrared) | Choose up to 4 | Choose up to 4 |
| Visible light converter | Optional | Optional |
| Blue converter screen | Optional | Optional |
| Slim slide-out UV transilluminator (20cm x 20cm) | Optional – 254, 302, 365nm wavelengths available | Optional – 254, 302, 365nm wavelengths available |
| UltraSlim Blue LED transilluminator | Optional | Optional |
| Gel size (cm) | 10 x 12 | 10 x 12 |

| DIMENSIONS | | |
|---------------------|--------------|--------------|
| Max image area (cm) | 15 x 12 | 15 x 12 |
| Min image area (cm) | 10 x 8 | 10 x 8 |
| W x H x D (cm) | 40 x 64 x 52 | 40 x 64 x 52 |
| Weight (kg) | Approx. 40 | Approx. 40 |
| Power Input (V) | 100-240 | 100-240 |