

MultiGel-21 *Multi-function Gel Image System*



DNA
RNA
PROTEIN



CE FC

• **Chemiluminescence**

- **Gel Documentation**
- **Multi-Color Fluorescent**
- **Real-Time Electrophoresis**

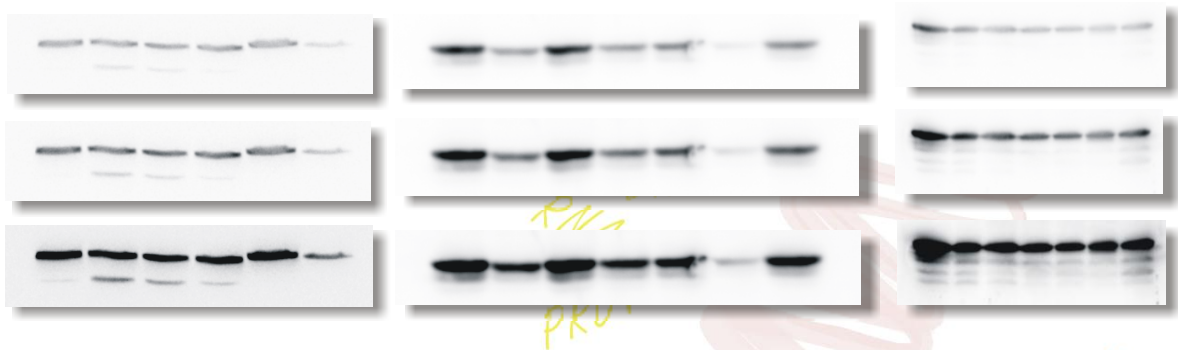
Gentaur Molecular Products
Voortstraat 49
1910 Kampenhout, Belgium
<http://www.gentaur-worldwide.com>

MultiGel-21 (Multi-function Gel Image System) has the feature of capture Chemiluminescence image and quantitative analysis, it also can expand to traditional Gel Documentation and even can upgrade to multi-color fluorescent detection, and Real-time electrophoresis.

Chemiluminescence

The system offer high sensitivity capture method on western blot , northern blot , southern blot , dot blot , slot blot etc.

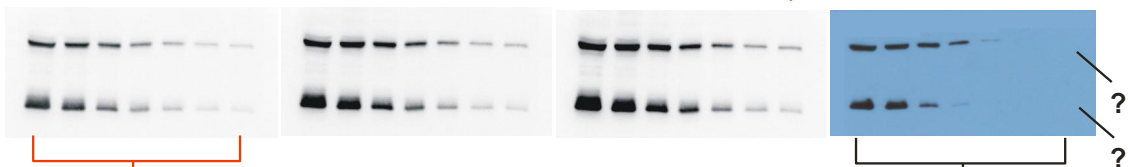
Chemiluminescence : Time-lapse images



Time saving :

Just mouse click can auto-capture different time exposure image results, but X-ray film always time-guess , repeat expose. Time waste will lead to weak signal loss .

Automatic time-lapse capture : 10sec. 20 sec. 30sec.



Linear dynamics :

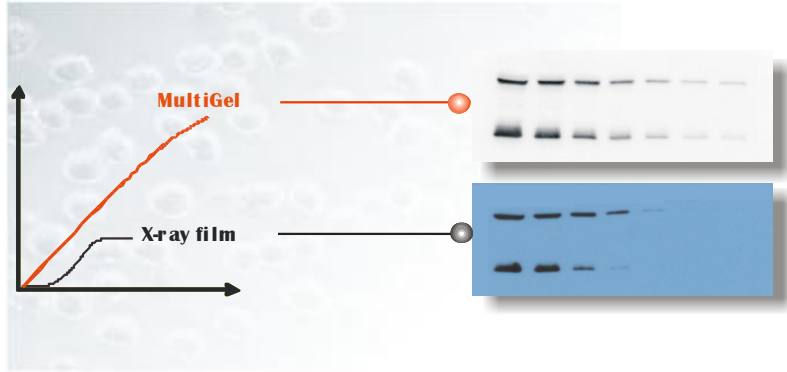
one exposure can capture ultra high and low concentration simultaneously within an image

X-ray film

X-ray film expression is not linear reaction for ultra high and low concentration signal .

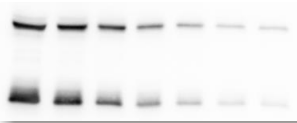
Quantitative

Resolution = 16 bit



Accuracy:

0 - 65536 scale



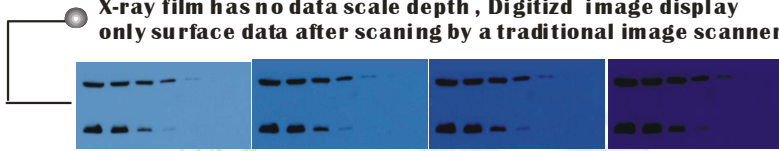
Each image own real data scale depth and weak bands can be enhance to be visible by adjust brightness or contrast.



0 - 256 scale



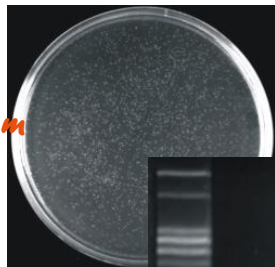
X-ray film has no data scale depth, Digitized image display only surface data after scanning by a traditional image scanner



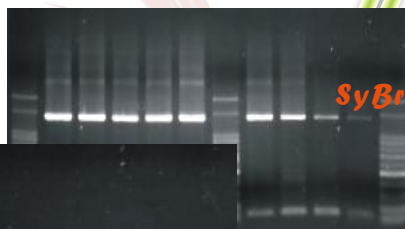
Gel documentation:

High sensitivity Cool CCD detection for DNA, RNA, Protein within agarose gel, PAGE, X-ray film, stain membrane.

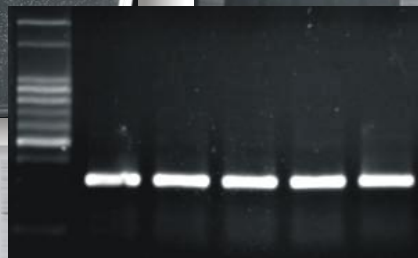
Colony plate



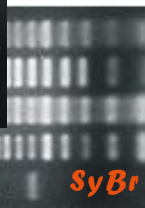
Etbri gel



X-ray film



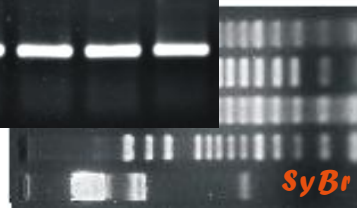
SyBr Ruby gel



Comasie Blue gel



SyBr Green gel



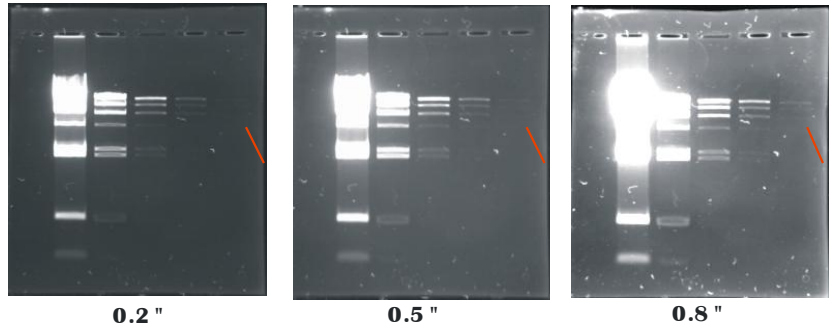
Silver stain gel



Sensitivity :

Long exposure time
enhance weak bands
to be more visible

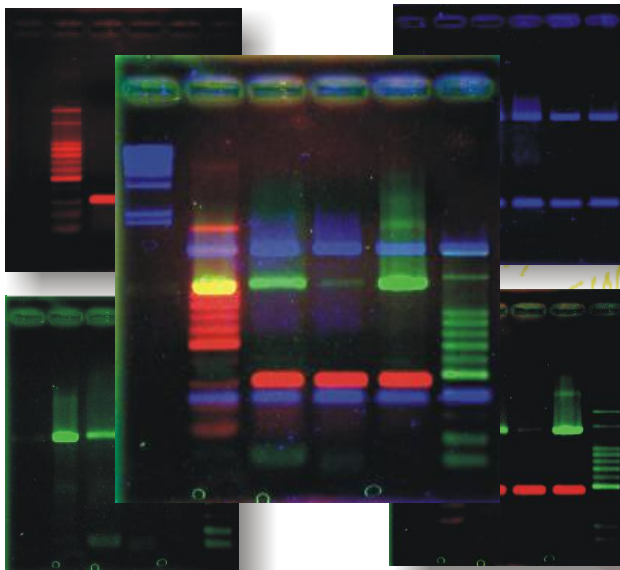
Expose time:
0.001-100,000 sec.
(> 24hrs)



Multi-color fluorescent (option) :

Red dye

Blue dye



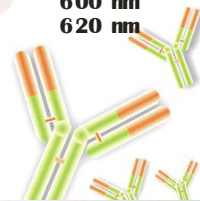
Excitation :

light source
UVBox : 254 nm
306 nm
365 nm

LED : 440 nm
530 nm
620 nm

Emission :

filter - 530 nm
600 nm
620 nm

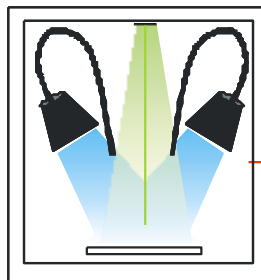


Green dye

Image merge

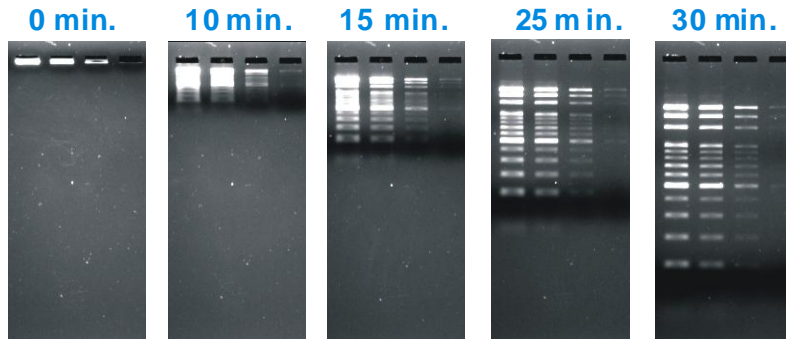


Filter selector:
have 4 filter well
can load different
wavelength filter,
easy change

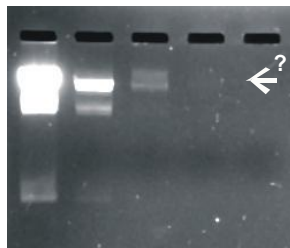
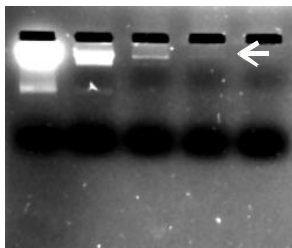


Real Time Electrophoresis (option) :

Real time electrophoresis is a new technology. Most of electrophoresis must run and wait a round one hour later or even more to see the results, in spite of pre-stain gel or post-stain gel always need to spend time. Our system can capture the gel image in the beginning of gel run and continuously take picture of different time stage gel. For example, total running time is 40 minutes, then our system will capture 40 images continuous and link together to be one movie file or separate it to many individual file. User can choose a best image to printout. Each image can keep high resolution at 1,440,000 pixels. The sensitivity is similar to or even better than EtBr gel. All the running period isn't involve dangerous UV light.

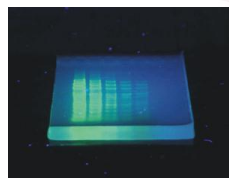


Time lapse running and view DNA bands moving and confirm PCR product in earlier time and may be positive or negative and to get an optimize gel band pattern e.g. RAPD, pulse field electrophoresis.

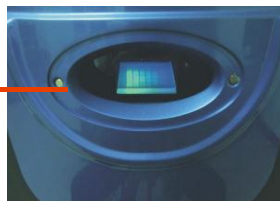


In the beginning of gel run weak band is still visible, but always diffuse when few minutes later the DNA bands has move a little bit longer away from original well, this will may be lead to some mistake.

Hardware designed :



8" touch screen direct connect to build-in mini-PC, can be adjust the angle to fit user's best operating height.



Easy to access real gel from transparent window with double UV resistant protection



UV box is easy to move out and in



Left and right hand access cover

Configuration :

Chemiluminescence

Cat.no. MGIS-21-C2-21

Include:

CCD (grayscale , 1392x1040, 16bit, -25°C)
Dark chamber
Sw reflectant light
Door safety switch
western blot sample rack
8" touch monitor,
Zoom Lens 8-48mm/ f1.0
Capture software version 4.1
Mini-PC with window 7

Cat.no. MGIS-21-C2-22

Include:

CCD (grayscale , 1392x1040, 16bit, -25°C)
Dark chamber
Sw reflectant light
Door safety switch
western blot sample rack
8" touch monitor,
Zoom Lens 8-48mm/ f1.0
Capture software version 4.1



Chemiluminescence + DNA Gel documentation

Cat.no. MGIS-21-C2-12

Include:

CCD (grayscale , 1392x1040, 16bit, -25°C)
Dark chamber
Sw reflectant light
Door safety switch
western blot sample rack
8" touch monitor,
Zoom Lens 8-48mm/ f1.0
Capture software version 4.1
Filter selector , EtBr filter
Lens dark box
UV light box (306nm, view size 20x20cm)
Mini-PC with window 7

Cat.no. MGIS-21-C2-13

Include:

CCD (grayscale , 1392x1040, 16bit, -25°C)
Dark chamber
Sw reflectant light
Door safety switch
western blot sample rack
8" touch monitor,
Zoom Lens 8-48mm/ f1.0
Capture software version 4.1
Filter selector , EtBr filter
Lens dark box
UV light box (306nm, view size 20x20cm)



Specification: Cat.no. MGIS-21-C2-21 & Cat.no. MGIS-21-C2-22

1. Cool CCD Capture system, 1/2" microlens, grayscale image.
2. Temperature difference = -25°C (below ambient)
3. Resolution: 1392(H)x1040(V). Preview resolution: 1392(H)x1040(V), twice faster
4. Quantitative resolution: 16Bits, 65536 scale
5. Exposure time: 0.001 seconds to 100,000 seconds (>24 hours).
6. Application: Western blot, Southern blot, Northern blot, Dot blot, Slot blot, Chemilluminescence, EtBr Gel, SYBR Green Gel, SYPRO Orange Gel, SYPRO Ruby Gel, X-ray film, TLC, Commasie blue Gel, Colony plate, Realtime electrophoresis.
7. Computer connection: be able to connect with notebook, or PC
8. ZOOM: 8-48mm / f1.0
9. reflectance light: white, 8Wx2. (option: UV light, 254nm, 306nm, 365nm)
10. safety door: automatic shut down UV when door is open, can switch to continuous light on when door is open for gel cutting.
11. quantitate each band intensity, can merge different color image, image calculation, area calculation, length calculation, 3D image display.
12. Realtime Electrophoresis: continuously tracking and record the proceeding gel images, prevent DNA band run over from gel area and weak bands diffused during migration.
13. Chemi-sample rack and UV LightBox can move in and out freely. Easily for sample loading and gel cutting.
14. Two hand doors locate on the left and right side. UV resistant window open with 2 layer UV resistant protection.
15. Integrate touch monitor save bench space and can rotate for different angle to fit users' comfortable height.
16. Option: Multi-wavelength light source for Realtime electrophoresis or other fluorescence detection, Flexible lamp tube can be adjust to any angle position, wavelength: 440nm, 530nm, 620nm selectable.
17. 1-999 Time-Lapse capture: can be set in the beginning of exposure, the system will display different exposure time images during capture and show all of images in the end of run. Exposure time can be changed any time during capture proceeding to fit user expectation.
18. 1-10 sequence capture: set individual different exposure time & bin value, then continuously capture preset image and each image result from 0" to set time. The sequence capture can be automatic repeat many times.
19. Auto-stretch: the function will automatically set the best image scale to enhance weak bands to be more visible for western blot sample in the first few images.
20. Negative image: can display white background area with dark bands similar to x-ray film image during capture.
21. Weight: 29 kg (64 lb), size: LxWxH= 56cm x 40cm x 76cm (22" x 16" x 30")

Specification: Cat.no. MGIS-21-C2-12 & Cat.no. MGIS-21-C2-13

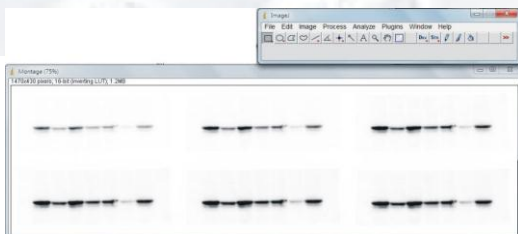
Spec. No.1 to No. 21 same as above except No.8 replace with no.24.

22. Filter selector: mounted on top of machine, easy to insert filter or take off filter. 4 filter well, rotated selection, dark box with EtBr filter (Option: other wavelength / SYBR Green filter, SYPRO Ruby filter)
23. Filter wavelength: 600nm x 1ea for EtBr dye, (Option: 440nm, 530nm, 620nm)
24. Zoom: 12.5-75mm / f1.8 (option: 8-48mm / f1.2, 8-48mm / f1.0)
25. UV wavelength: 306nm, 15W x 6 tubes, fast lighting up, high/ low intensity switch, view size = 200x200mm (Option: other wavelength selection, 254nm, 365nm or dual-wavelength 254+365nm).
26. UV Light Box: weight: 11kg (22 lb), size: LxWxH=50cm x 32cm x 15cm (20" x 13" x 6")

Quantitative software

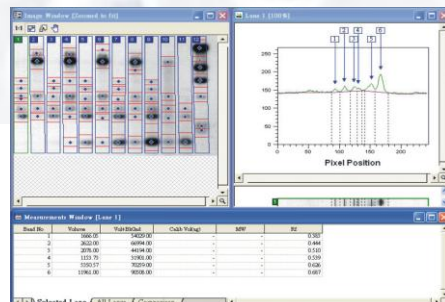
All images capture by our system are compatible with Imag J which is free software from web.

- 1) Analysis bands or spots density.
- 2) Adjust brightness, contrast.
- 3) Re-open images, review image sequence
- 4) Match sample lanes with molecular weight.
- 5) Make montage image.
- 6) Smooth, de-speckle
- 7) Image resize, interpolation



Commercial software (option): Unscan-it gel, TotalLab Quant

- * Calculate each band volume
 - * Calculate each band concentration
 - * Molecular weight calculation
- Other analysis software**
2-D spots comparison and match,
RFLP / RAPD dendrogram,
Colony counting etc.



MultiGel-21

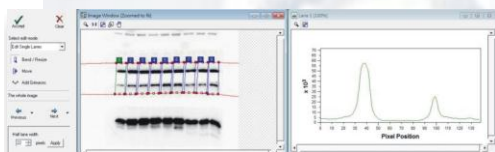
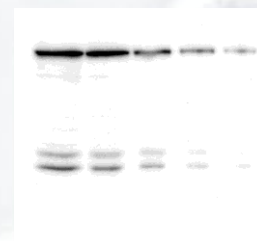
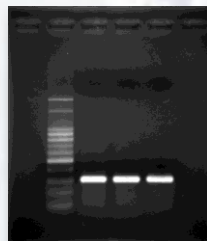
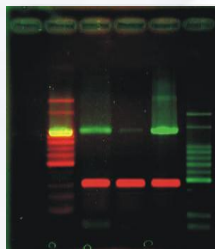
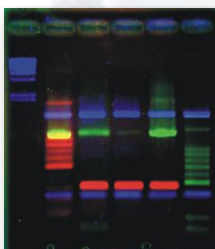


TotalLab 1D - Overview

TotalLab 1D is a suite of core analysis tools for quantitative image analysis applications in the Life Sciences.

New for v12 - Multiplex Analysis

1D electrophoresis gel and Western blot analysis

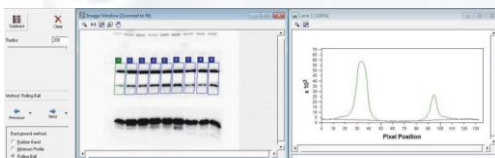


Automatic or manual lane finder

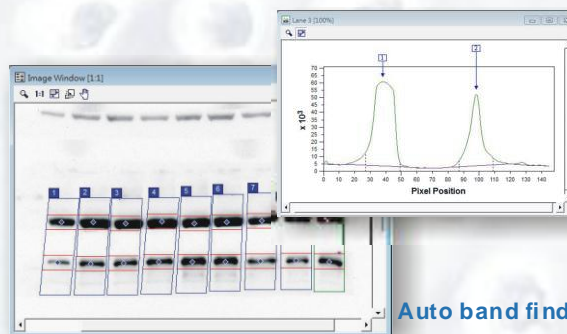
A wide range of image formats can be analysed, maximising the function of image capture instruments.

Workflows to suit your analysis requirements. Analysis of such images is rapid, automated to a high level and reproducible.

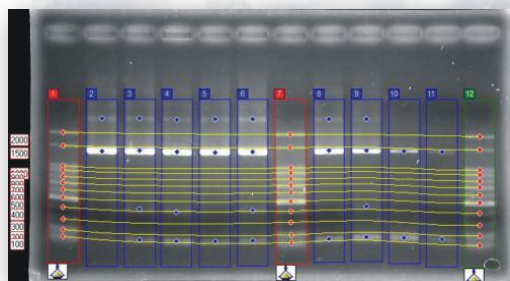
The user has the ability to review each stage of the workflow analysis and intervene / edit if required. Combining high levels of automation with final user review allows rapid and accurate quantitative analysis.



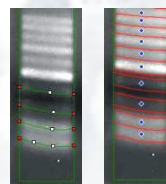
Background subtraction



Auto band find



Accurate quantitation for distortion gel image



Grimance tool for distortion bands

The user has full control of the visualisation tools and data display - outputting only those data fields that are of importance as well as the images of choice. Fast Accurate Quantitation and Reporting. For 1D gels, highly developed algorithms accurately detect lanes and bands even on distorted gel images. Results can be verified using the range of visualisation tools which aid further examination of lane and band data. Calibrate the bands using one or more Molecular Size standard lanes and derive accurate quantitation from known band volumes.