Chemiluminescence and Fluorescence imager

COMPACT DESIGN
Small footprint that saves space in the cluttered lab environment

SMART IMAGING
Blend the marker image with the chemiluminescent sample image in a seamless workflow

SUPERIOR SENSITIVITY
Reduce the time waiting for your faint signal to appear

EASY IMAGE EXPORT
Export your images in a batch to your USB drive instantly

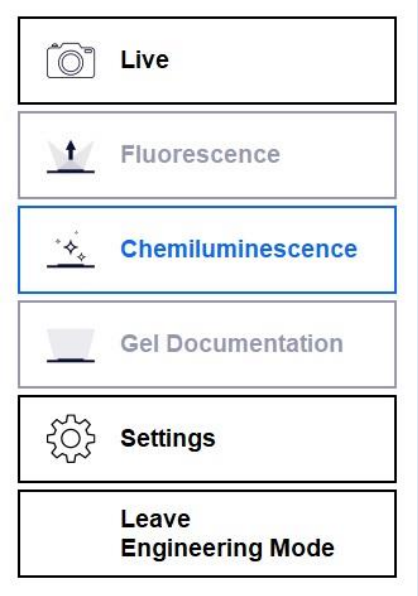
GOOD LABORATORY
Good Laboratory program Comply

The **KETA ML** system complete with the capability for Blot and Gel Image, wide use for Molecular Biology laboratory with high sensitivity affordable price in the market. Easy learning operation and report generation Multi-User file, Operator authorization management function bring record and tracking capability.
Most simple and friendly interface help operator intuition to next step without any risky in western blot workflow. High speed image transmission by use USB3.0. Wi-Fi, Ethernet, the powerful analyze software help to analysis the Image at second.

WHAT MAKES KETA M/ML THE IDEAL FLUORESCENT / CHEMILUMINESCENT IMAGING SOLUTION

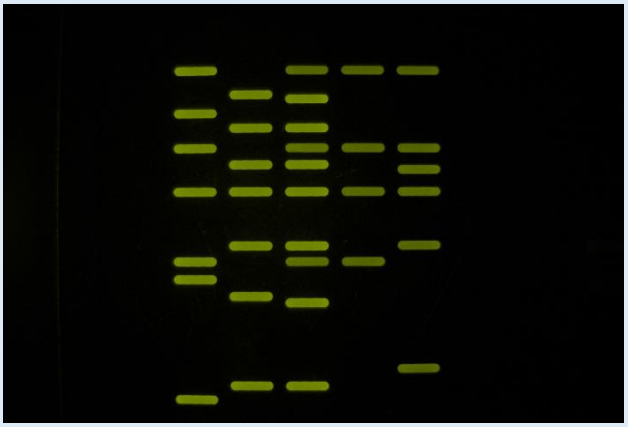
Compact Design with Maximum Flexibility

The **KETA M/ML** saves space and trouble even when you have to share the instrument with others. It consists of an integrated computer, a 12-inch touchscreen display, a tightly sealed darkroom, and a scientific grade camera in a small footprint. The simple sample tray placement minimizes the lens adjustment process. Needless to say, the highly sensitive camera can even capture the sample blot in a container without sacrificing the performance thanks to the tightly sealed darkroom and the excellent calibration process.

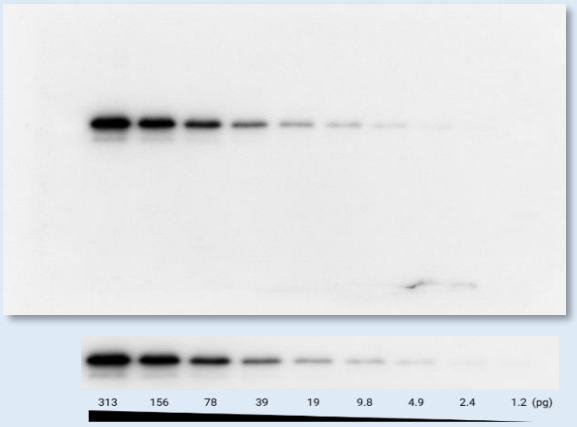


Applicable to Chemiluminesce and Fluorescence

The **KETA M/ML** consists of motorized high dynamic range Peltier cooled 9.1 Megapixel camera, motorized adjustable f0.95 lens, six position filter wheel for western blot application with both Chemiluminescence and fluorescent image capture. It is the state of art in the market, bring operator the most convenient and cost-effective system in molecular imaging field.



Fluorescence image Alexa Fluor 488

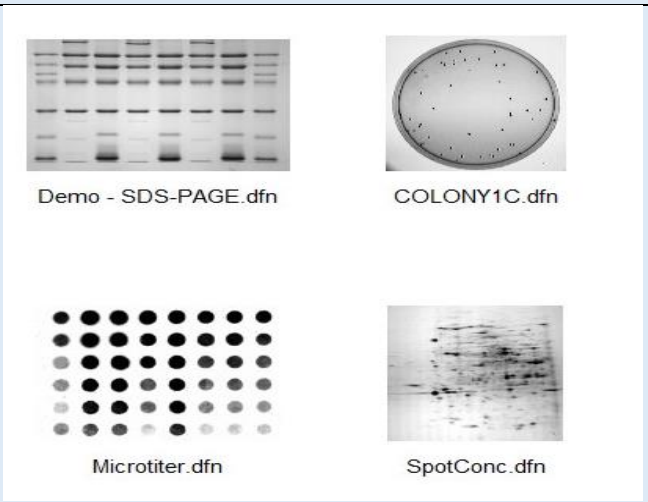


Picogram Dynamic Range Sensitivity

The **KETA M/ML** is capable of detecting picogram level of protein content within seconds. 16-bit, gray level 65535. Often times users have to wait for the faint signal to appear and sacrifice the resolution with the binning function. The KETA M/ML eliminates the waiting time and complicated binning options thanks to the highly sensitive scientific grade camera. The one-inch large size camera chip integrated with the Peltier cooling technology guarantees users to capture images with wide dynamic range and low noise. The system detects <2.4 picogram of purified human transferrin within 30 seconds. With these results shown here, you can capture your western blot images with confidence and trust.

Smart Intuitive Software Design

The **KETA M/ML** comes with the brand-new Magic Blot software which has been designed for ease of use based on the customer feedbacks. From capturing the images to exporting the images to your laptop, the Magic Blot simplifies the complicate processes under just a few clicks. In the image acquisition process, the software automatically blends the marker Image with the Chemiluminescence sample image and generates a combined image for users to export. As soon as users have acquired their images, they can easily export them, whether in a batch or a single combined image with the marker image overlay, to their USB drives instantly.



Six position filter wheels with emission filter

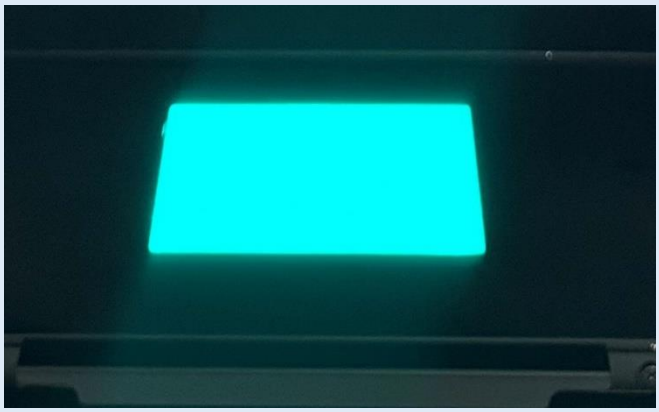
Detection Module with Lens and Filter Wheel

1 inch chip size & 9.1 M Pixels, 16 bit camera is the core of the **KETA M/ML**, Peltier cooling down to -40℃ below ambient to keep the highest signal to noise ratio for low Chemiluminesce signal detect, binning 2x2,4X4,8X8, f/0.95.

The preset focus, iris lens, emission filter and LED excitation light source was driven by Magic Blot preset program. Operator just choose capture mode, place correct sample tray, excitation wavelength or fluorescence dye, this intelligent module will go to correct optimum position and be ready for image capture. This design will help operator easy to get excellent result.

Excitation Light Source

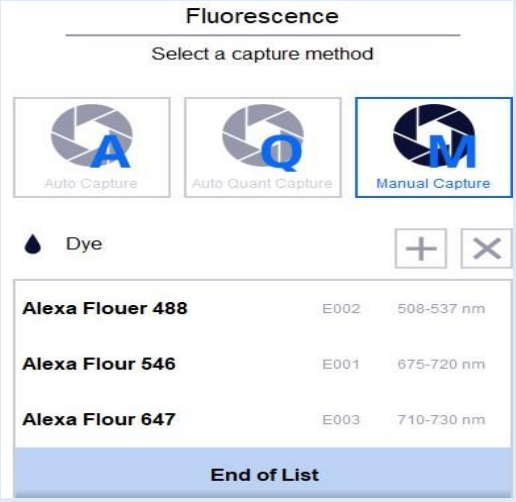
MC 300 consist two sets, six pieces full spectrum LED with BP filter, cover from 400nm to 640nm fluoriscence dye to high intensity excitation light source, MC 30 consist two sets one piece full spectrum LED with broad range BP filter for gel image only for KETA M, MC 30 can be easily upgraded to MC 300.
MC 300 and MC 30 are all controlled with Magic Blot software package during the image capture was selected,



Trans-illuminator for Gel Imaging

Three wavelength trans-illuminator is available, auto identified design. When place the transilluminator, the **KETA M/ML** will switch to gel image mode automatically including focus, Iris, and correct emission filter. Mainly application is for Agarose gel, safe dye stain or protein gel imaging capture with 1D software.

Those trans-illuminators use high power LED long life design and no need any maintained 495nm green light as standard, 490nm blue light and white light (option), the three models of trans-illuminator all have 18X15 cm working area, door open interlock.



Application mode Selection

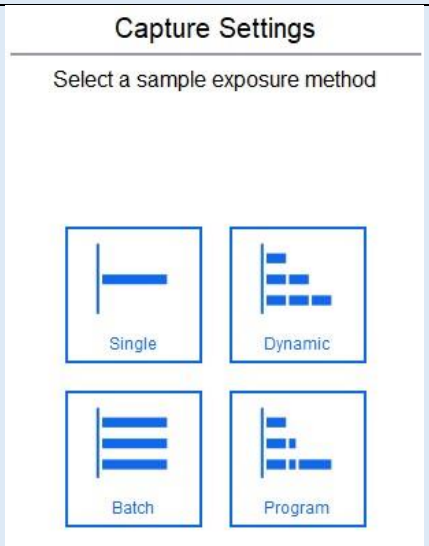
KETA ML consists with blot and gel imaging mode. It can be used for Chemiluminescence, Fluorescence and gel image capture when place the sample tray on the certain level of **KETA M/ML**.

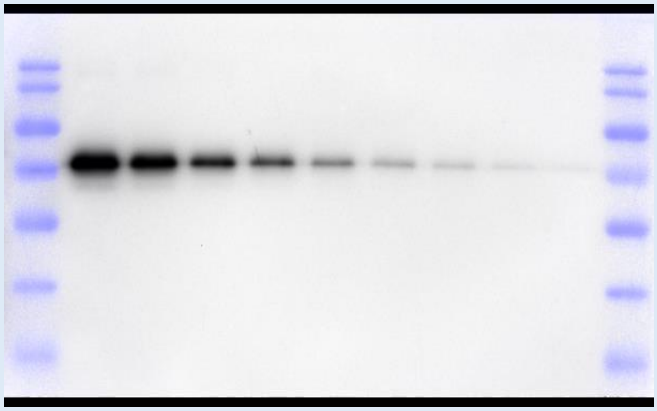
KETA M dedicated on Chemiluminescence and gel image only. It is easy to be upgraded to KETA ML. Both two units are extremely same performance.

The correct emission filter, excitation light source will be started up by preset program or created user file. Save/recall exist user files to carry out image captured.

Manual Exposure setting

The **KETA M/ML** through the unique exposure selection to fulfill different demands, including Auto Capture mode, Manual Capture mode, and Programing Capture. The Auto capture mode will get excellent image by just one click. The Manual capture mode is for professional operator to use DynaView and Batch capture which is easy to set exposure time, number of picture or simulate the X-ray film exposure. All modes get saturation warning. The picture includes protein marker, target protein, and blended picture saved on three individual files. Easy recall, edit, quantitation, reporting. The images support all common files such as PCX, TGA, DFN(GEL), PNG, IMG, TIFF, BMP, JPG, GIF etc.





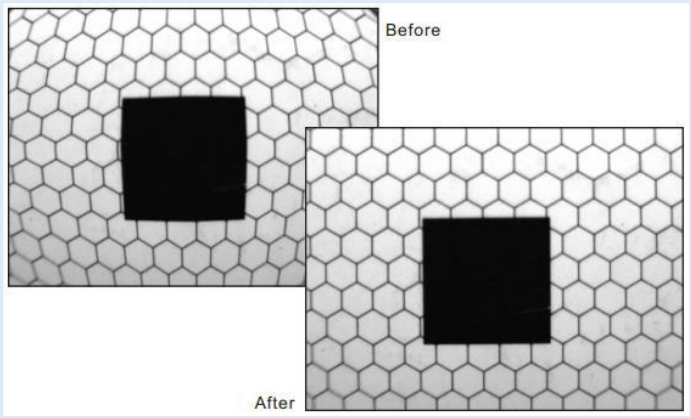
One Click Auto Capture Exposure

The Auto Capture have two selections, Auto capture exposure support one-click exposure. The system will calculate the best exposure time to catch the weakest signal detected with saturation warning, no need any adjustment and operator is easy to get good result of the blended protein marker. The image will be saved on three individual files.

The Auto Quant Capture is exactly the same with Auto Capture. The image capture will stop before any pixel saturation for Quantification purpose.

Powerful Image enhancement functions

Magic Blot software package includes hardware control, image capture, exposure parameter setting in addition the image quality enhancement functions such as darkroom calibration, bright field calibration, distortion correction, image blending, rotation 0-15°. Gel 1D, Band Tool, Spot Density Calculation, MW and Mass Determination, Microtiter Plate Imaging, Colony Counting are all included.



Distortion Correction

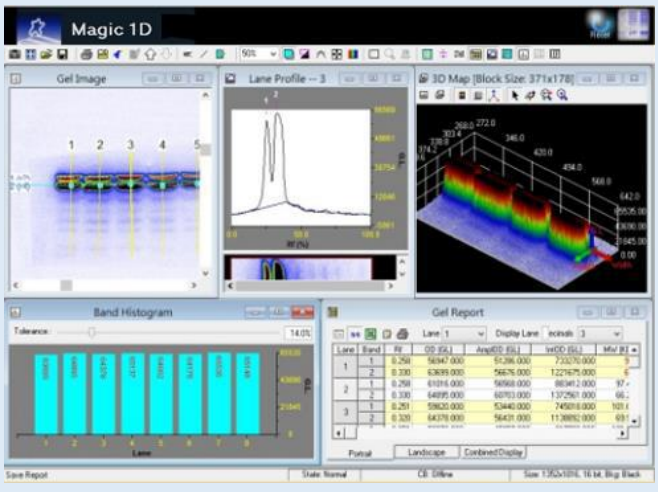
Saturation Warning

Continuous exposure the saturation pixels will warning by color change, if this function activated, auto capture exposure will stop at lowest signal was detected,

Auto quant capture will stop exposure before any pixel saturated For quantitative analyze.

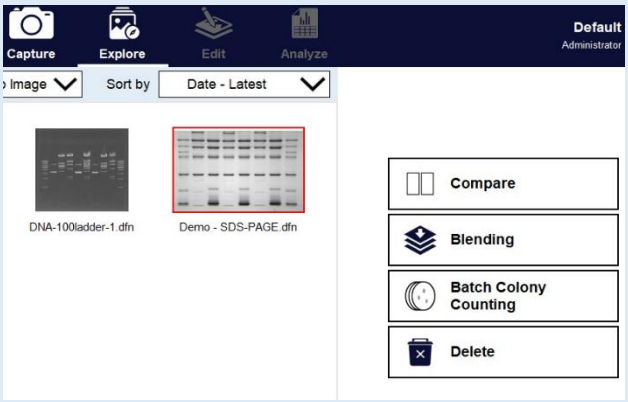
Magic Blot and Magic 1D Software

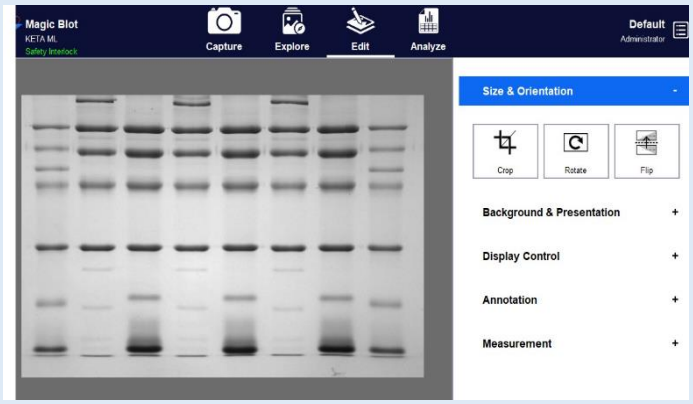
The new Magic Blot software which has been designed for ease of use based on the customer feedback. From capturing the images to exporting the images to your laptop, the Magic Plus simplifies the complicated processes under just a few clicks. In the image acquisition process, the software automatically blends the marker Image with the Chemiluminescence sample image and generates a combined image for users to export. As soon as users have acquired their images, they can easily export them, whether in a batch or a single combined image with the marker image overlay, to their USB drives instantly.



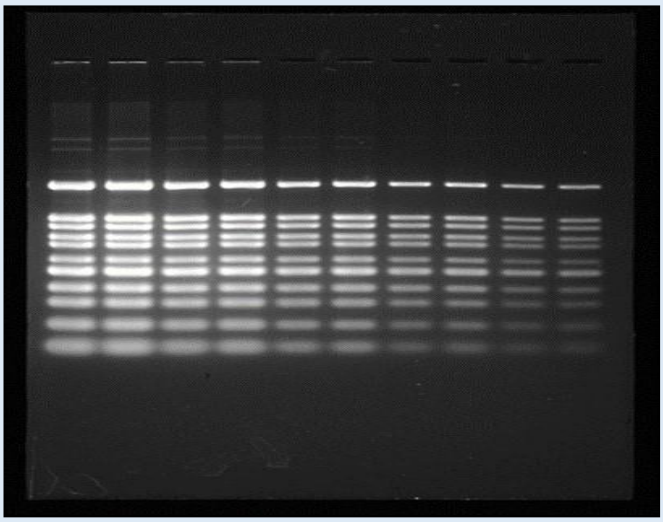
User-friendly software interface

The user-friendly human machine interface for both routine and core facility, operator management function directly records and controls the information of usage. The data and image can be transmitted via memory sticker, Ethernet or Wi-Fi to target host or personal computer. The Magic Blot software package as standard with KETA M/ML.

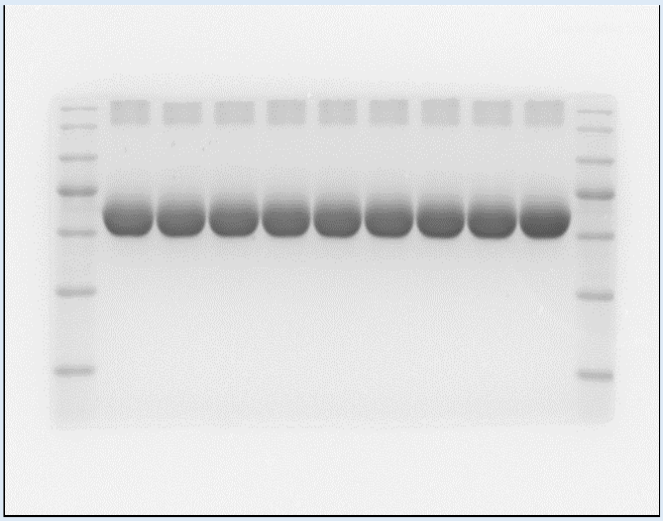




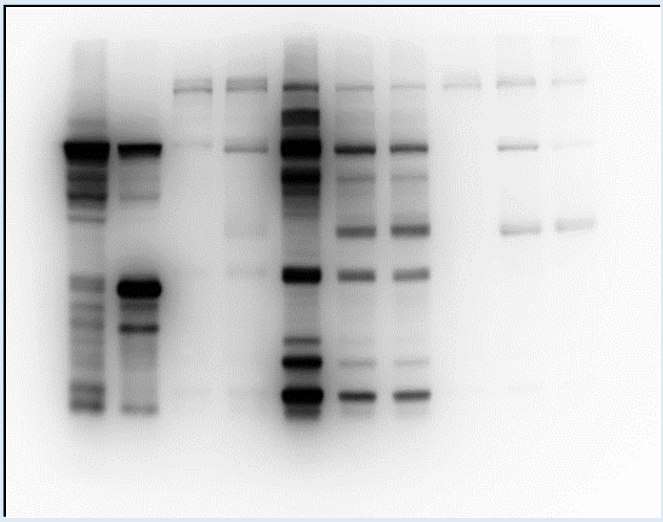
Typical Application



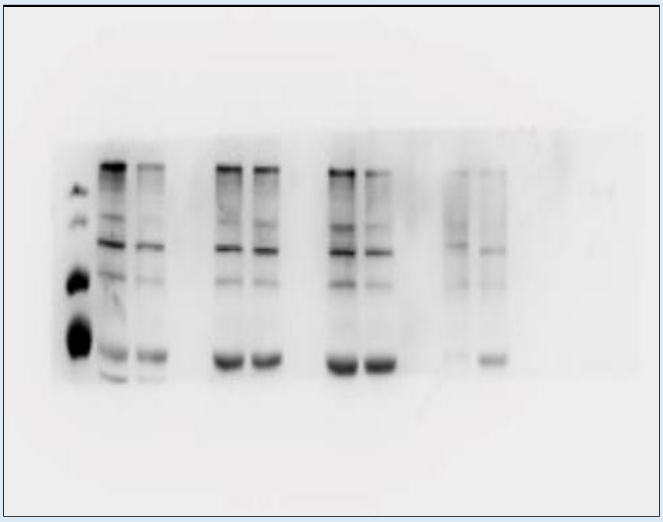
Agarose gel SYBR green excitation By Green light



Coomassie Blue excitation by White

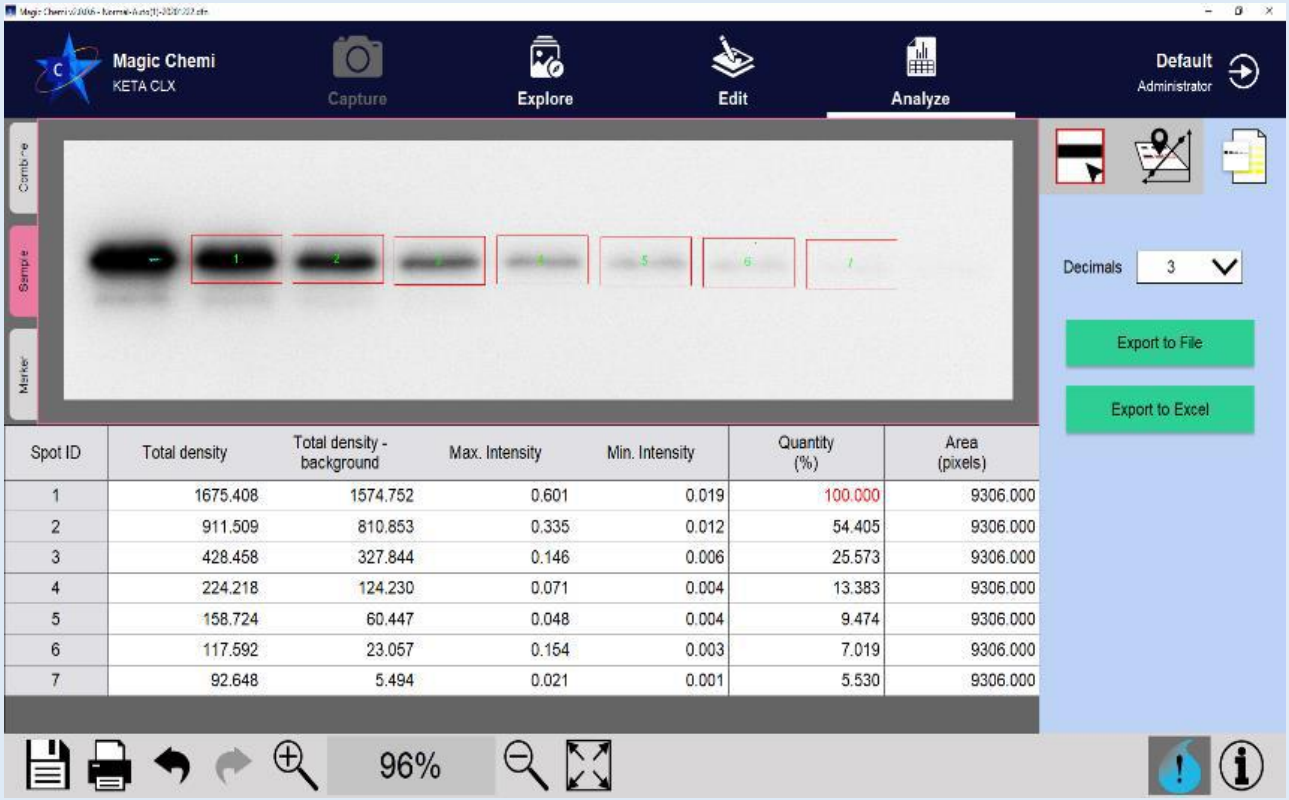


High Resolution 12 sec exposure



Auto Capture exposure

Professional Reporting



Spot ID	Total density	Total density - background	Max. Intensity	Min. Intensity	Quantity (%)	Area (pixels)
1	1675.408	1574.752	0.601	0.019	100.000	9306.000
2	911.509	810.853	0.335	0.012	54.405	9306.000
3	428.458	327.844	0.146	0.006	25.573	9306.000
4	224.218	124.230	0.071	0.004	13.383	9306.000
5	158.724	60.447	0.048	0.004	9.474	9306.000
6	117.592	23.057	0.154	0.003	7.019	9306.000
7	92.648	5.494	0.021	0.001	5.530	9306.000

Institute: Wealtec Bioscience Co., ltd.
Laboratory: Research and Development

Creator:
Print date: 2021/01/29 10:12:18

WEALTEC

KETA M Fluorescent Imaging system

Imaging System Information

System	KETA M	**Software**	Magic Chemi
Serial Number	IKM2012L03C2.1	**Software Version**	2.0.0.4

Image Information

File Name	Normal-Auto(1)-20201222.cfn		
Image Depth	16-bit	**Operator**	
Pixel Count	521,381	**Capture Date**	2020/12/22 8:55:14
Image Display	Inverted	**Image Size (pixel)**	1477 x 353
Capture Method		**Exposure Method**	Auto Exposure
Binning	Normal	**Exposure Time**	62.840 sec
File Location	C:\Users\lynn_\Desktop\Demo Archive\RD Good WB\62.5pg_2Xdilution		

Image Name: Normal-Auto(1)-20201222

Good Laboratory Program Comply

The optional GLP software package based on Magic Blot package, for multi-user good laboratory management comply with 21CFR part11, all images will be saved in computer by operator file automatically, tracking all results by using authorize password, while the images are saved in operator file, it will record all hardware parameters and messages which couldn't be modified or post-produced unless it's approved by authorization. The parameters include Application, sample ID, operator, time, exposure mode, exposure detail, picture detail, enhancement detail, detector detail, type of sample tray, Light Source and emission Filter etc.

Specification

Model	KETA M	KETA ML
Image depth	16-bit	
Dynamic Range	>4.0	
Operation temperature	0-60℃	
Chip size	1"	
Resolution	9.1M pixels	
Transmission	Wi-Fi, Ethernet, USB 3.0	
Binning	2X2, 4X4, 8X8	
Pixel Size	2.4um x 2.4um	
Cooling	Peltier, 40°C below ambient	
Lens	Auto focus f0.95 / 25mm	
Filter Wheel	Six positions (46mm)	
Excitation light source	MC 30	MC 300
Filter	WK 301	WK 301-WK 305
White Sample Tray	Yes	Yes
Black Sample Tray	---	Yes
Trans Green light Sample Tray	Yes	Yes
Trans White light Sample Tray	---	Yes
Software	Magic Blot C	Magic Blot
Single Board computer	Core 4 i3 CPU with six parallel USB port, 4.3GHz, 500G SSD, HDMI port, Wi-Fi	
OS system	MS windows11	
Physical dimensions and Weight	400 x 330 x 580mm (W x D x H), 27 kg	
Power	100 – 240V, 50 – 60Hz, 200 W	
Optional		
GLP software option		
External Touch Screen	20" LCD Screen with touch panel	
NIR Excitation Package	Include NIR light source and WK306 in lieu of WK 305 KETA ML only	
Thermal printer	Digital	

**The spec is subject to change without prior notice.

Emission Filter Selection Guide

Filter type	Em (nm)	Commercial fluorescence dye
WK301	540-630	Coomassie Blue, SYBR Green, SYBR Gold, SYPRO Ruby, SYPRO Orange
WK 302	515-531	Alexa Fluor 488, Alexa Fluor Plus 488
WK 303	564-618	Alexa Fluor 546, Alexa Fluor Plus 555
WK 304	675-719	Alexa Fluor 647, Alexa Fluor Plus 647
WK 305	706-727	Alexa Fluor 680, Alexa Fluor Plus 680
WK 306	800-850	Filter for Alexa Fluor 790, Alexa Fluor Plus 800 optional

Ordering Information

Catalog Number	Description
1150051	KETA M system complete include light tight darkroom 9.1 M pixels Peltier cooled camera, f0.95/25mm auto-focus lens, in-build SBC, 12" LCD with touch panel, six position filter wheel, ST 15 green light sample tray, optional white sample tray, WK 301 filter, MC 30 epi light, Magic Blot software package, single user key, Wi-Fi and a set of keyboard and mouse. 100-240V, 50/60 Hz.
1150052	KETA ML system complete include light tight darkroom 9.1 M pixels Peltier cooled camera, f0.95/25mm auto-focus lens, in-build SBC, 12" LCD with touch panel, six position filter wheel, ST 15 green light sample tray, white sample tray, black sample tray, WK 301 to 305 filter, MC 300 epi light, Magic Blot software package, single user key, Wi-Fi and a set of keyboard and mouse. 100-240V, 50/60 Hz.
1153040	KETA M to KETA ML upgrade package This package includes WK 302 to WK305 filter set, MC 300 epi source in lieu of MC 30 Epi Source, Magic Blot software factory installed
1155011	NIR excitation include NIR light source in lieu of WK305
1153034	GLP Software package option to comply CFR 21 Part11
1153033	Magic Blot C three user key One user key
1153035	Magic Blot three user keys
1151221	WK 301 560- 620 nm H-T Filter perform protein and DNA gel and blot imaging, 46mm
1151222	WK 302 515-531nm Filter for Alexa Fluor 488, Alexa Fluor Plus 488, 46mm
1151223	WK 303 564-618nm Filter for Alexa Fluor 546, Alexa Fluor Plus 555, 46mm
1151224	WK 304 675-719nm Filter for Alexa Fluor 647, Alexa Fluor Plus 647, 46mm
1151225	WK 305 706-727nm Filter for Alexa Fluor 680, Alexa Fluor Plus 680, 46mm
1151226	WK 306 800-850nm Filter for Alexa Fluor 790, Alexa Fluor Plus 800, 46mm
1151311	ST 15 Green light trans illuminator
1151312	ST 15 White light trans illuminator
1151313	ST 15 Blue light trans illuminator
1146003	Coded Black sample tray, 191x315x5mm (DxWxH)
1147007	Coded White sample tray, 191x315x5mm (DxWxH)
1146003	Digital Thermal printer

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