

just as it is . . .

CheBI

Chemi-luminescence Imaging System



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CheBI is optimized for Western blot experiment, using the highly efficient cooled CMOS camera. Its compact size (260 x 260 x 400mm) helps make better use of a space in the laboratory. Its exposure time can be set by the users manually or automatically. The CheBI can capture a series of images, allowing users to select the best one. Users can select a certain Region Of Interest (ROI), measure the ROI and manage the data using Microsoft Excel.

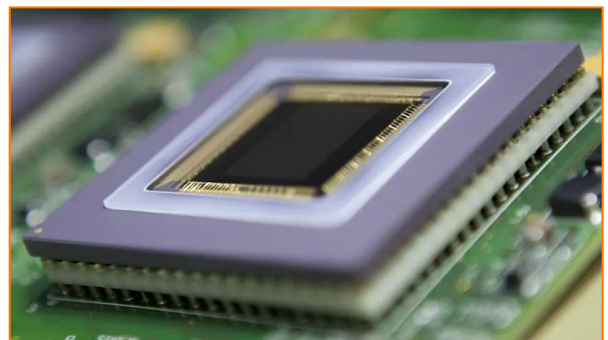


High-sensitive Sensor

The camera CheBI used equipped with high-sensitivity, low-noise CMOS sensors and built-in Ultra-Fine image processing engine, they deliver high signal-to-noise ratio images even under weak signal conditions. USB3.0 high-bandwidth links and built-in buffering ensure stable transmission of large multi-channel data volumes.

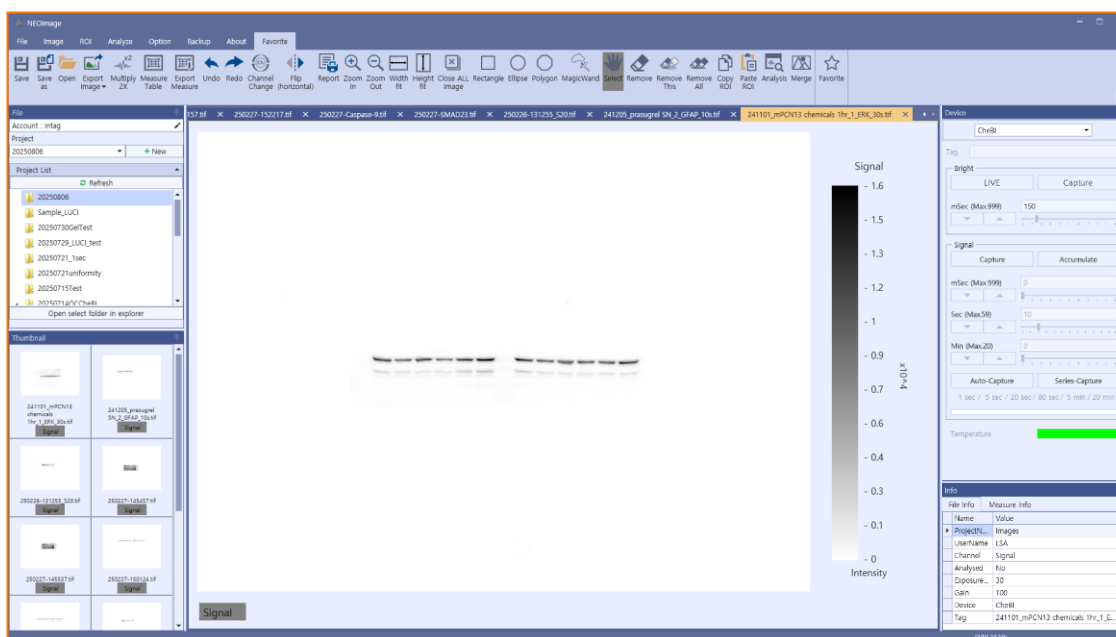
CheBI uses highly sensitive sensor with a quantum efficiency of up to 85%. Noise can be minimized by 40 °Cs cooling the sensor.

- ✓ Back-Illuminated (BSI) Exmor R architecture
- ✓ Column-Parallel ADC / Fast and clean data
- ✓ Low-light SNR / Read noise $\approx 1.0\text{--}1.5e^-$



User friendly

Imaging program for CheBI has an intuitive interface so that first-time users can easily learn how to use it. You can take pictures in three ways. Capture, Auto-capture and Series capture. The Auto-capture is a convenient function that acquires images with the optimal exposure time for each sample. Series capture is useful when you don't know how strong the signal is in a band. It saves all images with different exposure times from 1 second to 20 minutes, allowing the user to select the best image. CheBI's compact size and simple structure make it easy to use and manage.

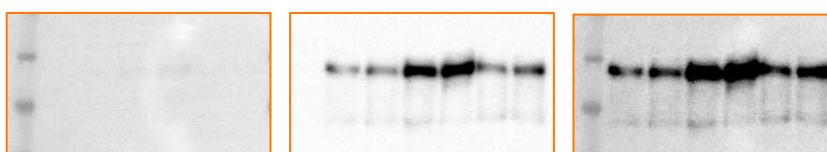


Auto-Capture

Images are acquired gradually, starting with short exposure times and progressing to longer ones. Once an image with adequate signal intensity is captured, further exposure is stopped, and the image is saved. Exposure times are applied sequentially: 1 second, 5 seconds, 20 seconds, 80 seconds, 5 minutes, and 20 minutes.

Series-Capture

To obtain signal images with appropriate exposure, images are acquired at various exposure times. Exposure times are set to 1 second, 5 seconds, 20 seconds, 80 seconds, 5 minutes, and 20 minutes. The multiple images acquired in this manner have the advantage of simultaneously capturing images of both weak and strong signals.



You can check the size of the band by merging it with the bright image.

Quantitation

CheBI can quantify the signal based on area and intensity. Specify a Region of Interest (ROI) in the acquired fluorescence image and obtain the number of pixels, intensity values, and volume within the ROI.

The Area corresponds to the total number of pixels in the ROI, while Intensity refers to the average pixel intensity within that area. Integrated density is calculated by multiplying the Area by the Intensity. To compare fluorescence signal levels between samples, use the Integrated density values. All quantified data can be exported as a CSV file by clicking "Export", and opened directly in Excel for further analysis.

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Plant Bio-luminescence Imaging

Unlike animal imaging, plant in vivo imaging experiences far less interference from internal tissues. Because plant samples are thinner, light can pass through more easily, resulting in clearer bioluminescence signals. CheBI enables efficient acquisition and analysis of plant bioluminescence images. By defining a region of interest (ROI), you can easily measure area, intensity, and integrated density for precise quantitative analysis.



Measure Table		Measure Info		
ROI #	Area (Pixel number)	Intensity	Integrated Density(...)	
1	174876	2657	464645532	
2	131968	1996	263408128	

Specification

Resolution	6.7 Mega pixel (2992 x 2244)
Camera cooling	Ambient - 40°C
Working temperature	-10 ~ 30°C
Size (WxDxH)	260 x 260 x 400mm
Interface connector	Standard USB 3.0
Field of View	145 x 108mm
Exposure type	Auto, Manual or Series
Maximum exposure time	20 min
Data backup	Save the backup data at the same time
Measurements	ROI area, intensity and integrated density
ROI setting	Manually or automatically