



MAG BIOSYSTEMS

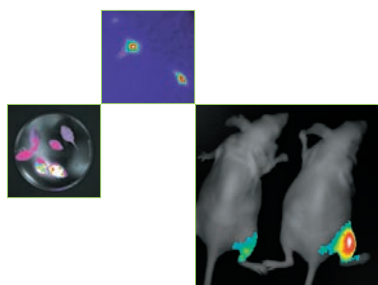
A PHOTOMETRICS® SYSTEMS BRAND

## MAG Biosystems™ **Lumazone™**

### QUANTITATIVE CHEMILUMINESCENCE AND FLUORESCENCE MACROSCOPIC IMAGING OF PLANTS AND ANIMALS

The MAG Biosystems™ Lumazone™ has been engineered for quantitative chemiluminescence and fluorescence macroscopic imaging of a variety of samples, including whole plants and animals.

This versatile, fully integrated system allows researchers to select the high-performance CCD or electron-multiplying CCD (EMCCD) camera best suited to their imaging needs, as well as to choose the dark box size most appropriate for their work.



### APPLICATIONS

- Gene expression in plants
- Tissue-specific gene expression in animals
- Gene expression in isolated-cell preparations
- Study of etiological agents and mechanisms
- Visualization of dermatological diseases
- Investigation of circadian rhythms in plants and animals
- Cancer biology (e.g., drug treatment efficacy, metastasis studies, preventative drug regimes)
- Plant development studies



### INDUSTRY-LEADING CAMERAS

The Lumazone system offers a choice of five high-sensitivity CCD and EMCCD camera options, giving researchers the flexibility to conduct a wide range of macroscopic imaging experiments — from basic applications such as single-wavelength detection of luciferin to more advanced applications such as time-course investigations using multiple fluorophores.

### ULTRABLACK DARK BOX

The Lumazone system's dark box has been designed to provide a light-tight environment for imaging both chemiluminescent and fluorescent samples. The availability of three different box sizes supports work with a wide variety of sample sizes, including standard plant trays.

### CUSTOM SOFTWARE

The Lumazone system includes image acquisition and processing software. Lumazone software optimizes data collection via on-chip binning, various subregion-readout methods, and the ability to set exposure times anywhere from milliseconds to hours.

### QUANTITATION & CALIBRATION

The Lumazone system delivers highly linear digital output and calibrated gain performance. In addition, the system includes a calibrated luminescence standard that enables the calculation of the exact number of photons emitted from a sample based on the intensity detected by the camera.

## CONFIGURATIONS

### EVERY LUMAZONE INCLUDES

- High-performance CCD or EMCCD camera
- Dark box
- Imaging lens
- LED light source for brightfield imaging
- Lumazone software
- Custom-configured computer
- Calibrated luminescence standard

### ORDER THE SYSTEM THAT'S RIGHT FOR YOU

- Configuration (choose one)
  - FA – automated fluorescence system
  - CA – automated chemiluminescence system
  - FM – manual fluorescence system
  - CM – manual chemiluminescence system
- Camera (choose one)
  - 1024B – back-illuminated CCD camera
  - 512BE – back-illuminated EMCCD camera
  - 1300B – back-illuminated CCD camera (LN cooling)
  - 2048B – back-illuminated CCD camera
  - 1002FE – front-illuminated EMCCD camera
- Dark box size (choose one)
  - Standard – 380 mm (w) x 300 mm (d) x 650 mm (h)
  - Tall – 380 mm (w) x 300 mm (d) x 800 mm (h)
  - Wide (for plant trays) – 430 mm (w) x 650 mm (d) x 1100 mm (h)
- Imaging lens (choose one)
  - C-mount (for use with 1024B, 512BE, and 1002FE cameras)
    - f/0.95, 50 mm
    - f/0.95, 25 mm
    - Custom lens options
  - F-mount (for use with 1300B and 2048B cameras)
    - f/1.4, 50 mm
    - f/1.4, 28 mm
    - Custom lens options

Note: The Lumazone FA, CA, FM, and CM base systems come with a 1024B camera. Alternatively, the 512BE, 1300B, and 2048B cameras can be selected. The 1002FE camera is available with the Lumazone FA and FM systems only. The 1024B, 512BE, and 1002FE are C-mount cameras and must be purchased with C-mount lenses. The 1300B and 2048B are F-mount cameras and must be purchased with F-mount lenses.

## SYSTEM SUPPORT

Our applications group includes a number of PhD scientists. These biological imaging specialists not only helped create the Lumazone system but are always ready to assist Lumazone users.

Every Lumazone imaging system is guaranteed to perform to its factory-defined specifications. To best serve Lumazone users, we maintain a worldwide network of technical support personnel.

Contact us today for more information!

### Images

p. 1 (left) – Chemiluminescence image of luciferase-expressing bacteria in *Arabidopsis* leaves courtesy of Dr. Jian-Min Zhou, Kansas State University

p. 1 (middle) – Single-cell BRET image courtesy of Dr. David W. Piston, Department of Molecular Physiology and Biophysics, Vanderbilt University

p. 1 (right) – Luminescence image courtesy of MAG Biosystems



## MAG BIOSYSTEMS

[www.MAGbiosystems.com](http://www.MAGbiosystems.com)

info@MAGbiosystems.com

Toll free 877.467.8467

USA 520.889.9933

Asia Pacific +65.6841.2094

France +33.1.60.86.03.65

Germany +49.0.89.660.779.3

Japan +81.3.5639.2731

UK +44.1628.890858

