

## Real-time Gene Expression Measurement in Living Cells

AB-2550 Kronos Dio



**AB-2550 Kronos Dio** is a luminescence measurement device (luminometer) that equips a photomultiplier tube as a detector. This device is suitable to monitor gene expression of culture cells and cultured tissue slice at fixed intervals over a period of several hours to several days using 35mm diameter culture dish as a sample container.

For the long term cultures, it is possible not only to control temperature in the cabinet by the air circulation but also to introduce CO<sub>2</sub>. Additionally, because an optical filter is built in, it is possible to monitor up to three kinds of gene expression using luciferase with different colors of luminescence.



### Sample preparation

Stimulate the cell line or the tissue slice to which the reporter vector has been transfected, and add the luminescent substrate luciferin to the medium. Set the culture dish in Kronos Dio.

- Kronos Dio measures luminescence at regular intervals. Temperature and CO<sub>2</sub> control.
- With built-in filter and color separation function
- PC control
- Culture conditions can be monitored (temperature and CO<sub>2</sub> density – 5%)

### Real-time measurements

The interior of the Kronos is kept at a constant suitable temperature for culturing. CO<sub>2</sub> can be introduced as necessary. Luminescence is measured at regular intervals, and the expression of the target gene is monitored.



Kronos Dio can hold up to eight 35mm diameter culture dishes in the chamber. The turntable has a structure in which no stray light can cause interference between each dish. Because dishes can be exchanged easily by opening the door of the chamber, stimulation with drugs can easily be performed. After the door is closed, temperature rises promptly, so a stable culture condition can be obtained.

## Applicable to long-term measurements and multicolor luminescence measurement

Luminescence is measured for long time at regular intervals. This is applicable to multicolor assay measurement to obtain luminescence of three colors using one substrate because a color separation mechanism is built-in. The inner filters are switched sequentially and luminescence permeating through the filter is measured by the photomultiplier tube.

### Examples of gene expression measurement

- **Real-time reporter assay for long term**

Luciferase is used to analyze the function of the clock gene. The study progresses from various aspects including the relationship with disease, chronotherapy, etc.

- **Measurement of RNA interference (siRNA effect)**

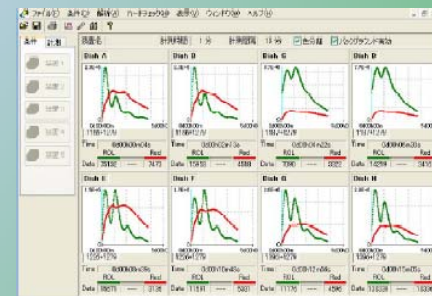
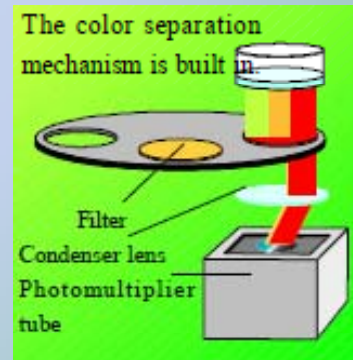
The effect of prepared siRNA can be examined. Because this effect is maintained for a long time, when luciferase is used as the reporter protein, the effect in the period can be easily measured.

- **Real-time reporter assay of two or more genes**

If you use multicolor luciferases, two kinds of gene expressions can be monitored in real time.

- **Drug stimulation response**

The influence of the drug on the gene can be measured in time course.



### Installation and training

For the price GENTAUR provides a notebook, installation and training (demonstration of basic software and hardware functionality). Six hours of installation and training are inclusive in the price at no extra cost for USA and Europe. The necessary materials and tools for connecting the device to the carbon dioxide source are at the expense of the customer.



Price: 29 500 Euro / 35 000 USD / 25 000 GBP



[www.gentaur-worldwide.com](http://www.gentaur-worldwide.com)  
[info@gentaur.com](mailto:info@gentaur.com)  
Tel.: 0032 16 58 90 45

