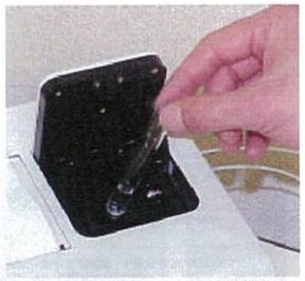
Specifications

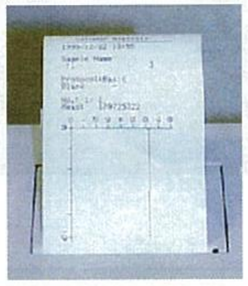
Model	"AB-2270 Luminoscencer Octa"	"AB-2270-R Luminoscencer Octa "
Measurement Tube	Φ 12×55 mm test tube & 1.5 mL micro tubes	
Measurement Method	Photo Multiplier Tube (PMT) Photon counting method with Photomultiplier tube	
ATP sensitivity	10^{-17}mol / mL ATP	
Measurement wave length	350 ~ 670 nm	
Filters	F0:No filter, F1:O56, F2:R60	
Color Separation Mechanism	"Multi color Assay, Separate up to three colors or less by the filter automatic operation change mechanism measurement. "	
Injector	"Built in Plunger type (25 - 300 µL) 25 µL Step"	No
Printer	Built-in thermal printer 24 digits	
Counting times	"1~2000 Sec (Monochromatic light) 1~600 Sec (Wavelength separation) / Filter"	
Repeat Function	"Max 99 times Interval (Including measurement time) Set: Measurement time~3600 Sec"	
"Pre-incubation/Delay Time"	0~3600 Sec	
Measurement Mode	Basic/Single/Dual Available automatic operation change mechanism (Turn on/off)	
Data Saving	"Saving 200 files, 9 files calibration Exporting and saving data through PC by Windows interface program	
Control	Panel Key switch operation	
Protection function	Tube detection/door opening and shutting detection/PMT protection	
Size	250(W)×310(D)×176(H) mm	250(W)×310(D)×176(H) mm
Weight	7.5kg	7.0kg
Power	200-240 V, 50Hz, 50VA	200-240 V, 50Hz, 50VA

Standard System Includes	AB-2270 Main Unit	AB-2270 R Main Unit
* PC Interface cable optional	Control Software (Windows)	Control Software (Windows)
	Printer Paper - 2 Rolls	Printer Paper - 2 Rolls
	AC Cable	AC Cable
	Manual	Manual
	Injection Tube (One side fitting 20cm)	-



Reliable measurement is ensured by the deliberate functions. Smooth control by simple operation such as Yes/No selection or numeric keying, as prompted by dialog with LCD display.

Flexible software grogram allows various luminescence assays with flash and glow-type reagents, for types of research and routine applications. User-friendly interface provides simple and easy operation by control with membrane keypad. Measurement can be programmed by setting conditions



Built-in printer provides hard copy of conditions, peak or integrated counts, and kinetic curve.

Measurement data can be saved in the instrument or can be transmitted to a PC, in order to export the measurement data into spreadsheet programs.

アトー株式会社
Atto Corporation
1-5-32 Yushima, Bunkyo-ku,
Tokyo 113-0034, Japan
Tel: +81-3-3814-4824
Fax: +81-3-5684-6636
URL: www.atto.co.jp

Authorized Distributor:

AB-2270 Luminescencer Octa

For High- Sensitivity measurement of Bio and Chemiluminescence in single tube samples

- Suitable for all luminescence based assays with flash and glow reactions, including single and dual assay applications
- Easy operation with user-friendly menu driven software
- Advanced, Photomultiplier tube based photon counting system
- One built-in Automatic reagent injector
- Temperature Control (Optional)
- Data printed out for hard copy or saved and transferred to PC
- Simultaneous measurements of two or more genes through multi-color luciferase (Color Separation Mechanism)
- Multi Reporter Assay, BactoLumix Assay, Dual Reporter gene Assay, Reporter Assay, ATP Assay

ATTO
Bioscience & Biotechnology

Luminometer compatible with Multireporter Assay

AB-2270 Luminescencer OCTA

Powerful tool in gene analysis

A Luminometer compatible with Multi reporter Assay

A new technology for analysing samples that simultaneously emit multiple luminescent signals

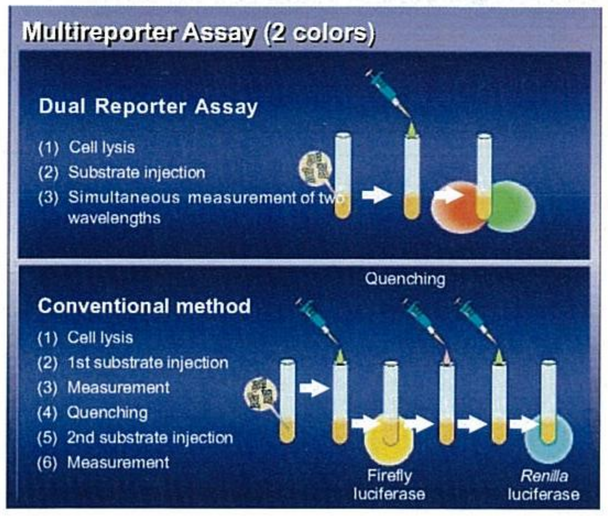
(Japanese patent number: 3585439)

Also compatible with conventional reporter gene assay and dual reporter gene assay

AB-2270 Luminescencer Octa

A tube-type bio/chemiluminescence analyzer having a "color separation" function (automatic filter switching function) to simultaneously measure multiple luminescence signals. A compact body houses a printer and an injection pump. Can also be used with conventional luciferase assays and multiple reporter assays using a multiple luminescence reagent (multiple luminescence signals generated by one substrate).

New Technology: Multireporter Assay



Luciferase assay using a photoprotein as a reporter gene is a widely used gene expression analysis technique. With this assay, it is possible to estimate the expression of a target gene based on luminescence. Luciferase assay is capable of quantifying target gene expression by detecting luminescence with low background noise.

Dual Luciferase Assay is often used to measure the expression of a target gene. In this assay, a gene with stable expression is used as a control gene in order to correct for differences among tests (changes in measurements caused by factors other than expression, i.e.,cell activity and count). However, because this assay uses different reporter genes for luminescence detection, two different substrates must be added. Therefore, strict measurement of gene expression becomes difficult due to differences in the optimal assay conditions for substrates.

Multireporter Assay was developed to solve this problem. This assay utilizes a few photoprotein genes as reporter genes that emit different luminescent signals (green, orange and red) by adding one type of luciferin. By utilizing three reporter genes, it is possible to measure the expression of three genes under the same conditions with only one type of luciferin. Because only one type of luciferin is used, it is possible to measure the expression of multiple genes under the same conditions.

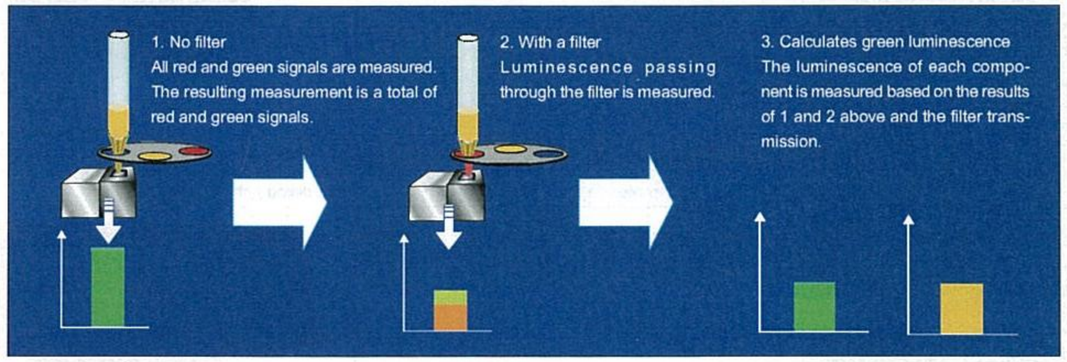
However, existing luminometers are insufficient because multiple luminescent signals must be quantified simultaneously in Multireporter Assay. AB-2270 Luminescencer OCTA is a tube-type luminometer with a "color separation" function that is capable of efficiently measuring multiple luminescence signals simultaneously.

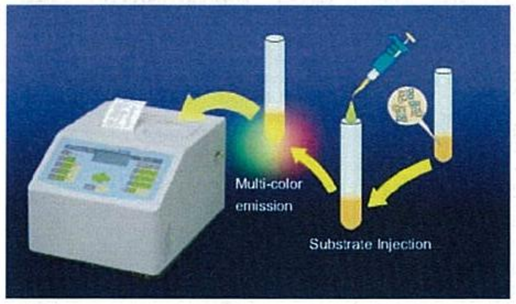
Reference:

Nakajima, Y., Ikeda, M., Kimura, T., Honma, S., Ohmiya, Y. and Honma, K.: Bidirectional role of orphan receptor RORalpha in clock gene transcriptions demonstrated by a novel reporter assay system. **FEBS Lett.** *(2004) 565, 122-126*

Color Separation

Patented method (Japanese patent No.3585439 for the instrument and measurement method)



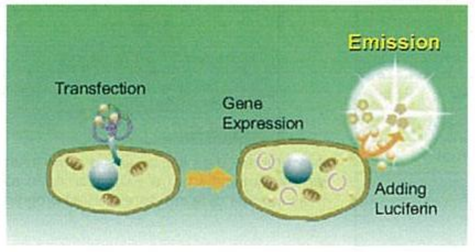


AB-2270 Luminescencer OCTA is capable of separating and measuring multiple luminescence signals simultaneously using its original color separation mechanism. Color separation requires optic filters, and is carried out using one filter fewer than the number of luminescence signals. For example, one O56 filter is needed to measure luminescence signals at 530 and 600 nm.

Before each measurement, the luminescence of a target gene is measured on its own, and its coefficient is registered for use in the subsequent calculation. By utilizing this coefficient, the value of each luminescence signal is calculated based on the results of one assay. This assay method and mechanism are patented technologies of ATTO.

Other Application

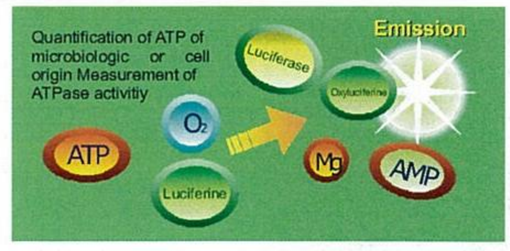
Reporter Gene Assay/Luciferase Assay



Luciferase assay detecting the expression of a transduced gene in cells can be carried out quickly with a high degree of sensitivity.

AB-2270 Luminescencer Octa can be used to conduct not only multi-color assays but also conventional analyses using the firefly or *Renilla* luciferase gene.

ATP Assay



In ATP assay based on firefly luminescence, ATP in various cells, such as bacterial cells, yeast cells and animal cells, can be measured with a high degree of sensitivity in order to easily ascertain vital counts and cellular activities.