Measure Biological and Cellular Activities with GloMax™ Luminometers and Bioluminescent Assays from Promega

ABSTRACT Beginning with firefly luciferase reporter gene assays, Promega has extensive experience developing luminescent technology to include a variety of assays for measuring such biochemical or cellular activities as apoptosis, cell viability, kinase activity and toxicity. The GloMax™ Integrated Luminescence Systems are composed of reagents, instruments, software and protocols all with a single, comprehensive support system. The sensitivity and dynamic range of the GloMax™ Luminometers make them state-of-the-art, easy-to-use instruments for measuring any bioluminescent signal, especially using Promega bioluminescent assays.

The sensitive signal and low background of Promega bioluminescent assays combined with the sensitivity and dynamic range of the GloMax™ Luminometers give you the ability to generate the highest quality data from your experimental system.

BIOLUMINESCENT ASSAYS

The hallmark bioluminescent assay is the luciferase gene reporter assay for quantitative measurement of gene expression. The original firefly luciferase assay system yields linear results over several orders of magnitude, while maintaining low background luminescence. Promega has developed a suite of bioluminescent assays that maintain this high quality but measure other biochemical or cellular activities of interest to the biological researcher. Furthermore, these assays are easy-to-use and adaptable to different throughput needs.

GLOMAX™ 96 AND 20/20 LUMINOMETERS

To gain the full benefit of bioluminescence as an assay signal, you need a luminometer to measure activity. A typical luminometer consists of a light-sensitive photomultiplier tube (PMT) in a light-tight exterior. The PMT is situated close to the light-emitting sample for maximum sensitivity and collects signal over the entire spectrum of light. Multifunction readers that can read absorbance, fluorescence and luminescence offer flexibility, but this instrumentation is not designed for reading luminescence. Often sensitivity and dynamic range are compromised by long path lengths for filter wheels and other assemblies required for measuring different signals. The result is that extremely bright or dim samples may not be read appropriately. The GloMax™ Luminometers are built for one thing: capturing the highest quality luminescence data possible with the most user-friendly interface.

The majority of Promega bioluminescent assays feature an "add-mix-read" format. The GloMax™ Luminometers come preloaded with protocols for reading the Promega assays, so that no programming or optimization of the instrument is required. However, the flexible interface allows you to create your own methods, keeping the instrument adaptable to meet your needs.

The GloMax™ Luminometry Systems.

In addition, GloMax™ Luminometers are simple to maintain. Tubing paths for the injector system are visible, so that issues can be detected before they cause problems. If bubbles in the line or injector contamination should occur, the tips and tubing are all readily replaceable by the user.

Finally Promega provides the same great level of technical support for the GloMax™ Integrated Luminescence System as we do for our reagents and chemistries. Our global network of Technical Services Scientists is available to assist you with questions about experimental design, use of reagents or instrumentation.

PROTOCOL

- *GloMax™ 96 Microplate Luminometer Technical Manual* #TM278, Promega Corporation www.promega.com/tbs/tm278/tm278.html
- *GloMax™ 20/20 Luminometer Technical Manual* #TM276, Promega Corporation www.promega.com/tbs/tm276/tm276.html

TO LEARN MORE ABOUT GLOMAX™ INTEGRATED LUMINOMETRY SYSTEMS, VISIT:
www.promega.com/glomax/