Application Information

BRET

BRET

Bioluminescence, Resonance, Energy , Transfer

* Energy (light) of Renilla reaction is transferred to a fluorescent protein
* Read-out at emission wavelength of fluorescent protein
* Occurs upon close proximity
* Due to interaction of attached biomolecules

BRET is based on the fact that the energy derived from a Renilla luciferase reaction can be used to excite a fluorescent protein molecule if the latter is in close proximity to the luciferase enzyme. There are several advantages of BRET over other methods. It is a non-radioactive and homogeneous technology. The ratiometric signal minimizes interferences from assay conditions and keep the time management non critical. There is no auto-fluorescence coming from compounds or cell and buffer components as no light source is required.

The Mithras LB940 is the Gold Standard when performing BRET experiments, with well over 100 units in the field using this procedure.

To ensure the sensitivity needed for BRET Berthold uses a Dedicated Optical Path System that is best facilitated by optical filters when it comes to sensitivity and versatility. Only the use of filters with transmission characteristics of as high as 80% - versus approximately only 16% of double monochromator assemblies - can be used for BRET.

Reasons to use BRET over existing technologies:

* No photo-bleaching or photo-isomerization of the donor protein or auto-fluorescence from cells or micro plates caused by incident excitation light

* Ratiometric signal: minimal interference from cell type and number, micro plate variability, etc.

* Non-destructive homogeneous assay: colenterazine is membrane permeable

Microplate Reader

Mithras LB940

Mithras LB 940 High Performance and Versatile Multilabel Reader

Mithras LB 940 is a modular and reliable microplate multimode reader with outstanding performance. Renowned for its sensitivity and robustness especially in luminescence and BRET measurements the reader supports all important reading technologies including

Luminescence	Fluorescence (top and bottom)
BRET and BRET2	FRET
Fluorescence Polarization (FP)	UV/VIS Absorbance
AlphaScreen®	AlphaLISA®
Time-Resolved Fluorescence	HTRF®

And the Mithras has the ability to integrate to our

Stacker LB931

The Walk-away Solution

A barcode reader provides positive plate identification making the system a true walk-away solution for microplate reading.

Features:
Various Plate formats
Either 25 or 50 plates
Teachable smart gripping
Re-stacking

Newest Mithras Publication

Chroma-Glo reporter gene assay with Mithras multilabel reader

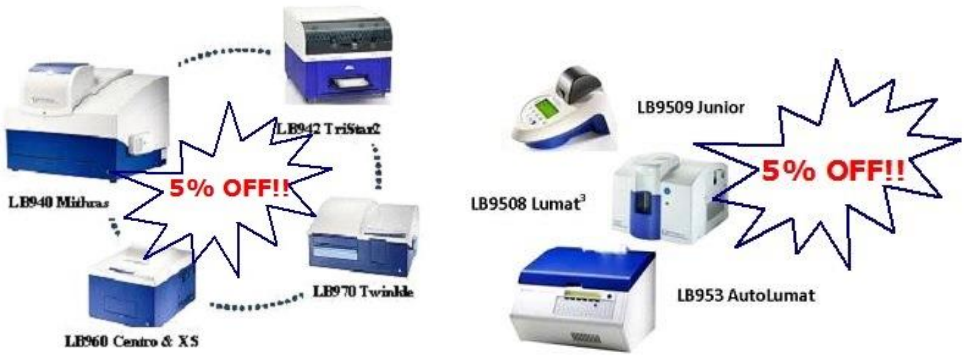
Have a look at the new publication describing the use of the Mithras LB940 multilabel microplate reader in a Chroma-Glo report gene assay. The article deals with the benefits of using luciferase emitting in two different colors and need a single substrate only in cell based assays. It provides an outlook of its suitability in high throughtput screening.

Follow this link to the publication.

To read other applications for the Mithras follow this link...

APPLICATIONS FOR MITHRAS

AND DON'T FORGET...



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