

Datasheet for KLD-003**RadChemDosi™ Cell Survival Assay Kit****Overview**

Description:	RadChemDosi™ Cell Survival Assay Kit - KLD-003
Item No.:	KLD-003
Size:	1 Kit
Applications:	Biochemical Assay

Product Details

Background:	RadChemDosi™ Cell Survival Assay Kit is a chemical based assay that can measure the dose rate of ionizing radiation. Radiation mainly works by producing free radicals that reacts with biomolecules (DNA, protein and lipid) in mammalian and other types of cells. The amount of free radicals produced by radiation is dependent on the dose. RadChemDosi™ is an effective way to measure dose rate for ionizing radiation. It is a chemical-based assay that uses the ability of ionizing radiation to induce changes in certain chemicals. RadChemDosi™ is useful for blood irradiators where it can be used for periodic calibration and to determine the dose given to blood by simultaneously irradiating RadChemDosi™ in small disposable tubes attached to the blood sample by taping the tubes outside the bag.
Synonyms:	Radiation dosing assay, Gamma radiation assay, dosimetry solution for gamma radiation, cell death assay, cell survival, to measure ionizing radiation.
Detection Kit Type:	Cell Survival Kit

Target Details

Relevant Links:	• RadChemDosi Kit Insert
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Application Details

Suggested Applications:	Biochemical Assay (Based on references)
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Application Note:	RadChemDosi™ Cell Survival Assay Kit contains enough reagents for 100 test if 1 ml is used for irradiation. RadChemDosi™ is sensitive to measure the dose rate as low as 2.5Gy/min at various positions in a Cesium irradiator chamber. In addition to calibrating the dose rate at each position in a radiation chamber periodically, it can also be used to measure the dose rate in each well of a 6 and 24 wells plate.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
Other:	100 test if 1 ml is used for irradiation

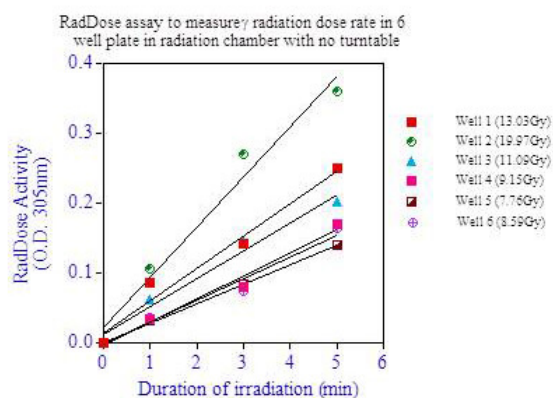
Formulation

Physical State:	n/a
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Shipping & Handling

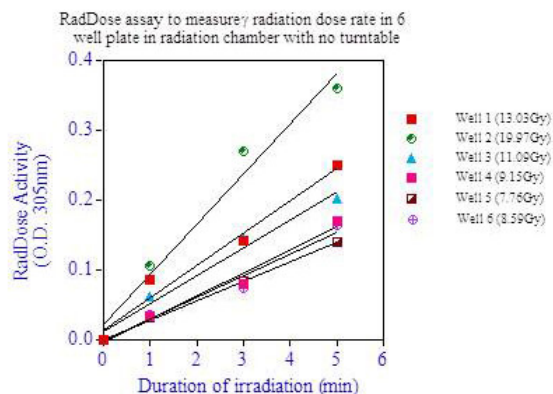
Shipping Condition:	Wet Ice
Storage Condition:	Store Kit at 2-8° C prior to opening. See kit insert for complete instructions.
Expiration:	See kit insert for complete instructions.

Images



ELISA

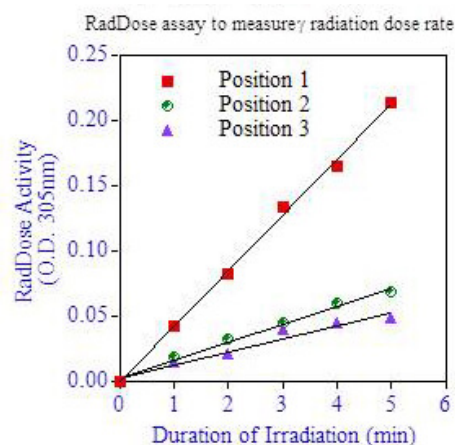
RadChemDosi™ is an effective way to measure dose rate for ionizing radiation. In addition to calibrating the dose rate at each position in a radiation chamber periodically, it can also be used to measure the dose rate in each well of a 6 and 24 wells plate. Measurement of gamma dose rate with RadChemDosi™ in 6 well plates. Dose Rate with the turntable on: Position 2- 360.28rads/min or 3.60Gy/min for each well. $y=0.013x+0.000$ $r^2=1.000$ (each).



ELISA

RadChemDosi™ is sensitive to measure the dose rate as low as 2.5Gy/min at various positions in a Cesium irradiator chamber. The variation in radiation dose rate measured in each of the six well plate in a radiation machine with no turntable suggests that the dose rate calibration by RadDose assay is required to accurately measure the dose given to cells in each well of a six well plate. The calibration by RadDose is essential in radiation chambers without turntable.

$y = 0.047x + 0.015$ $r^2 = 0.970$; $y = 0.072x + 0.022$ $r^2 = 0.972$;
 $y = 0.040x + 0.013$ $r^2 = 0.977$; $y = 0.033x - 0.003$ $r^2 = 0.980$;
 $y = 0.028x + 0.002$ $r^2 = 0.999$; $y = 0.031x - 0.001$ $r^2 = 0.971$.



ELISA

RadChemDosi™ Cell Survival Assay to measure gamma radiation dose rate by producing free radicals that reacts with biomolecules in mammalian and other types of cells.

$y = 0.043x + 0.000$ $r^2 = 0.998$; $y = 0.014x + 0.003$ $r^2 = 0.990$;
 $y = 0.010x + 0.004$ $r^2 = 0.945$.

Dose rate with turn table on:
 Position 1- 1193.82rads/min or 11.92Gy/min. Position 2- 388.36 rads/min or 3.88Gy/min. Position 3- 277.4rads/min or 2.774Gy/min.

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.