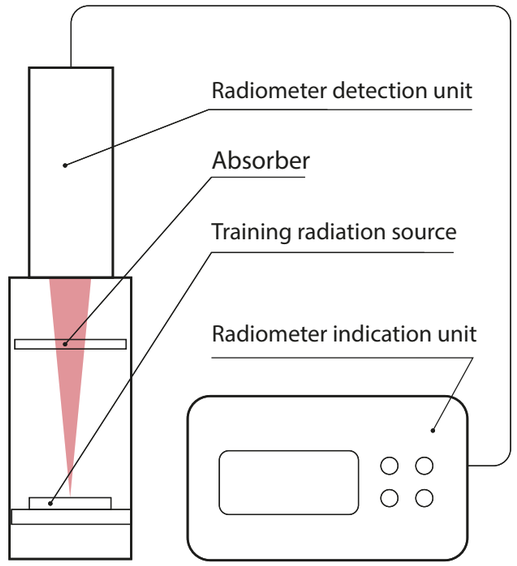
RITVERC™
isotope products

# RadiaLab

Radioactivity phenomenon
demonstration kit

# Radialab

Radioactivity phenomenon
demonstration kit




Over 100 years has passed since Henri Becquerel have discovered the phenomenon of radioactivity. It has since turned into a vast array of unique tools for science, industry, and humanities. It is also a major safety hazard if handled with no proper knowledge or skill.

This Radialab training kit includes every tool you need to run an intro level lab course on radioactivity applications.

## Radialab Kit Contents

1

### Measuring equipment

ATOMTEX AT1117M Multifunctional radiation monitor by Atomtex SPE

- Fitted with a set of detectors reliably capturing and measuring all radiation types
- Robust and easy to use

2

### Set of training radiation sources

Sealed alpha, beta and gamma radiation sources specially designed by RITVERC for educational purposes, featuring extra durable body to ensure integrity during laboratory use.

Source activity levels are set at or below 'exempt activity' threshold, meaning you can conduct scientific experiments in a regular lab or classroom without a hazmat certificate.

3

### Additional equipment

Auxiliary items to facilitate your experiment, like spacing inserts to attach source to detector at a predefined distance, absorber sets to measure radiation penetrating power, and source holders.



## Lab experiments you can do

### 1. Dosimetry

Demonstrating dosimetry basics. Measure radiation level using different detection units and different sources. You can also measure natural background radiation level indoor and outdoor as well as radioactivity from common natural sources of radiation, like granite rock.

### 2. Radioactive decay statistics

Demonstrate radioactive decay being a probabilistic process. Radiation intensity level varies in time while being measured, its fluctuations following the laws of statistics (Poisson distribution law).

### 3. Study of radiation absorption in substance

Show same material penetrated differently by alpha, beta, and gamma rays, and same radiation blocked differently by different materials depending on their density and atomic number.

### 4. Radiation intensity changes with distance

Demonstrate how radiation intensity drops with distance. Show gamma radiation intensity decreasing as distance from the source, squared.


### 5. Upper beta spectrum limit using absorption method.

Show how beta radiation intensity drops depending on aluminum absorber material thickness. Demonstrate intensity falling to background level with thicker absorber plate. Knowing absorber thickness and material, you can calculate beta particle boundary energy.