

Highly Stable ATP Assay Kit

Cat. No. Kit-0115 Lot. No. (See product label)

SPECIFICATION

Product Overview

Highly Stable ATP Assay Kit is a high throughput and extremely sensitive detection of ATP production or consumption.

Description

Adenosine-5"-triphosphate (ATP) is a central molecule in the chemistry of all living things and is used to monitor many biological processes. An accurate, reliable method to detect minute ATP levels such as the Luciferase/Luciferin system has broad application. Conventional Luciferase/Luciferin ATP detection systems are unstable since luciferase loses activity rapidly. We have developed a highly stable Luciferase; a genetically modified variant derived from the Luciferase of *Diaphanes pectinealis* (Chinese Firefly) endemic to Yunnan province, China. We designate our recombinant highly stable luciferase rLucHS. Compared to the normal phenotype of *Photinus pyralis*, rLucHS provides enhanced stability, excellent sensitivity, and a broader and more physiologically relevant effective pH range. At all pH's below ~ 8.2, rLucHS has a significantly higher relative activity than *Photinus* luciferase and is stable for weeks at room temperature and >60 minutes at 37°C. Using the protocol outlined here, the quantitation range is between approximately 1 nmol to 10 fmol/assay. The specific activity of rLucHS is ~ 5 x 10¹¹ RLU/mg protein. The assay can be fully automated for high throughput (1 sec/sample) and is extremely sensitive and is ideal for detecting ATP production or consumption in a variety of processes and enzymatic reactions.

Target Species

Mammals

Usage

For research use only (RUO)

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Storage	Store kit at -20°C.
Kit Components	10X Reaction Buffer. Cap code: purple. 2.0 mL Reconstitution Buffer. Cap code: clear. 1.1 mL Enzyme Mix (lyophilized). Cap code: green. 1 vial ATP Standard (MW 551) (lyophilized). Cap code: yellow. 1 vial
Detection method	Luminescence
Compatible Sample Types	Cell Homogenate, Tissue Homogenate

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