Product Datasheet

ADP/ATP Ratio Assay Kit (Bioluminescent) ab65313

Overview

Product name: ADP/ATP Ratio Assay Kit (Bioluminescent)
Sample type: Tissue, Adherent cells, Suspension cells
Assay type: Semi-quantitative
Sensitivity: < 100 cells/well
Assay time: 0h 30m

Product Overview

ADP/ATP Ratio Assay Kit (Bioluminescent) ab65313 is based on the bioluminescent detection of the ADP and ATP levels. It can be used for a rapid screening of apoptosis, necrosis, growth arrest, and cell proliferation simultaneously in mammalian cells.

In the ADP/ATP assay, luciferase catalyzes the conversion of ATP and luciferin to light, which in turn can be measured using a luminometer or Beta Counter. The ADP level is measured by its conversion to ATP that is subsequently detected using the same reaction.

The assay can be fully automatic for high throughput and is highly sensitive (detects 100 mammalian cells/well).

Notes

Changes in the ADP/ATP ratio have been used to differentiate the different modes of cell death and viability. Increased levels of ATP and decreased levels of ADP have been recognized in proliferating cells. In contrast, decreased levels of ATP and increased levels of ADP are recognized in apoptotic cells. The decrease in ATP and increase in ADP are much more pronounced in necrosis than apoptosis.

Review our cell health assays guide to learn more about our other cell viability, cytotoxicity and cell proliferation assay kits.

Properties

Storage instructions: Store at -20°C. Please refer to protocols.

Components | Identifier | 200 tests |
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ADP Converting Enzyme (Lyophilised) | Blue Cap | 1 vial |
ATP Monitoring Enzyme (Lyophilised) | | 1 vial |
Relevance

The changes in ADP/ATP ratio have been used to differentiate the different modes of cell death and viability. Increased levels of ATP and decreased levels of ADP have been recognized in proliferating cells. In contrast, decreased levels of ATP and increased levels of ADP are recognized in apoptotic cells. The decrease in ATP and increase in ADP are much more pronounced in necrosis than apoptosis.

Images

Quantitation of glutamate levels (A) using ab138883 and intracellular ATP (B) using ab65313 in D. hydrothermalis cells grown under different pressure conditions.

ADP/ATP ratio in cystathionine-beta-synthase silenced A2780 (Ovarian cancer cell line) cells and AOAA (aminooxyacetic acid) treated A2780 cells were measured using ADP/ATP ratio assay kit (ab65313).
ADP/ATP ratio were examined in both narciclasine (ncls) and vehicle (veh) treated C2C12 myotubes with or without PA treatment using ADP/ATP ratio assay kit (ab65313).

Please note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"