Product Data Sheet

# K2037 NADH Fluorometric Assay Kit

## Kit Contents

| Components | K2037-250<br>250 assays | Part Number |
|---|---|---|
| NADH Extraction Solution | 1 x 10 mL | K2037-C-1 |
| NAD Extraction Solution | 1 x 10 mL | K2037-C-2 |
| NADH Sensor Buffer | 1 x 20 mL | K2037-C-3 |
| NAD/NADH Lysis Buffer | 1 x 10 mL | K2037-C-4 |
| NAD/NADH Recycling Enzyme Mixture | 2 x 1 Vial | K2037-C-5 |
| NADH Standard | 1 x 1 Vial | K2037-C-6 |
| NAD/NADH Control Solution | 1 x 10 mL | K2037-C-7 |

## Introduction

Nicotinamide adenine dinucleotide (NAD) is a coenzyme present in all living cells and exists in two forms: $NAD^+$ and NADH. NAD plays important roles in energy transforming and redox state of cells or tissues. NADH, the reduced form of NAD, plays an important role in cell regulation and repair processes. Measurement of low level NADH in samples or in enzymatic reactions is of increasing interest.

The NADH Fluorometric Assay Kit provides a highly sensitive and convenient way for detection of low level NADH in samples or in enzymatic reactions based on fluorescence method. The NADH Recycling Enzyme Mix specifically recognizes NADH in the enzyme recycling reaction, which are not required to purify from samples. The assay is fast, simple and convenient, and can measure less than 8 nM NADH in a variety of samples.

## Key facts

**Detection method**

Colorimetric/Fluorometric

**Sample types**

Tissue Lysate, Cell Lysate

**Assay type**

Quantitative

**Reactive species**

Mammals

**Assay time**

2h 30m

**Assay Platform**

Microplate reader

## Storage

**Shipped at conditions**

Blue Ice

**Appropriate short-term storage conditions**

-20°C

**Appropriate long-term storage conditions**

-20°C

**Storage information**

-20°C

## Notes

NAD/NADH Assay Kit (Fluorometric) provides a convenient method for sensitive detection of NAD, NADH and their ratio.

The enzymes used in the NAD/NADH assay protocol specifically recognize NAD/NADH in an enzyme cycling reaction that significantly increases detection sensitivity. In addition, this assay has very low background since it is run in the red visible range that considerably reduces the interference from biological samples.

There is no need to purify NAD/NADH from sample mix. The assay can be performed in a convenient 96-well or 384-well microtiter-plate format.

The NAD/NADH assay signal can be easily read by either a fluorescence microplate reader at Ex/Em 530 - 570/590 -600 nm (max Ex/Em 540/590 nm) or an absorbance microplate reader at ~576 nm.

This kit provides NAD and NADH extraction buffer, and cell lysis buff er for your convenience. It has been frequently used for determining NAD/NADH from cell lysates.

NAD/NADH assay protocol summary:

- add standards and samples for NAD, NADH, total NAD/NADH measurement to wells
- add NADH extraction solution to NADH wells, incubate for 10-15 min, and add NAD extraction solution to neutralize
- add NAD extraction solution to NAD wells, incubate for 10-15 min, and add NADH extraction solution to neutralize
- add NAD/NADH control solution to standard and total NAD/NADH wells, incubate for 10-15 min, and add NAD/NADH control solution
- add NADH reaction mix and incubate for 30 min to 2 hr
- analyze with a microplate reader.

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

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