



Cell Technology, Inc

Fluoro NAD/NADH

Fluorescent NAD/NADH Detection Kit

Key Benefits

- Detection of NAD/NADH activity in cells or tissue extracts.
- Detection of NAD/NADH levels in apoptosis, metabolism, proliferation, DNA repair, senescence, endocrine signaling and life span.
- NAD/NADH detection in Bacterial, fungal and plant cells.

Assay Principle

The role of pyridine nucleotides (NAD/NADH) metabolism in health is of continual and increased interest. A growing amount of evidence supports the fact that NAD metabolism regulates important biological effect including life span. NAD, through poly-ADP-ribosyl polymerase (PARP), mono-ADP-ribosyltransferase (ARTs) and recently characterized sirtuin enzymes, exerts potential biological effects. These enzymes modify proteins to regulate their function via ADP-ribosylation or deacetylation and are involved in several pathways including apoptosis, DNA repair, senescence and endocrine signaling. This suggests that either the enzymes or NAD could be an important therapeutic target ¹. The Fluoro NAD/NADH detection kit utilizes a non-fluorescent detection reagent, which is oxidized in the presence NADH to produce its fluorescent analog and NAD. NAD is further converted to NADH via an enzyme coupled reaction. The enzyme reaction specifically reacts with NAD/NADH and not with NADP/NADPH.

Reaction:

1. NADH + non-fluorescent detection reagent+ electron coupler \longrightarrow fluorescent analog + NAD

2. NAD + enzyme coupled reaction \longrightarrow NADH (then proceeds to reaction 1).

excitation: 530-570nm and emission at 590-600nm

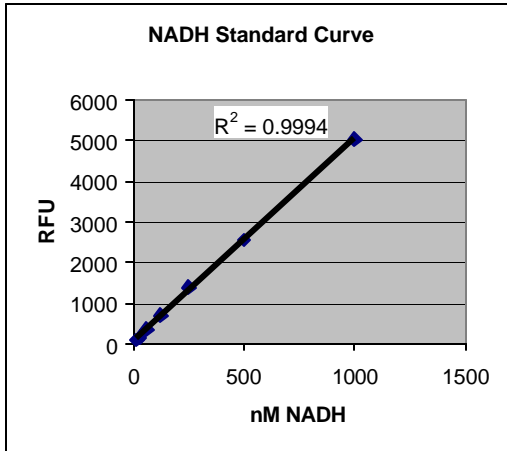


Figure 1. NADH standard curve titrated in NAD/NADH lysis buffer. Incubation time = 1 hour.

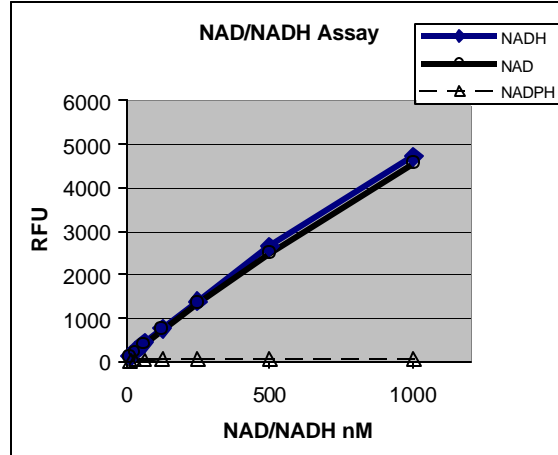


Figure 2. NAD/NADH Assay showing no cross reactivity with NADPH. Incubation time = 1 hour.

Ordering Information

Catalog #	Size	Price (US\$)
FLNADH 100-2	100	375

References:

1. Anthony A. Sauve **NAD⁺ and Vitamin B3: From metabolism to therapies**
J. Pharmacol. Exp. Ther. 2007 : jpet.107.120758v1

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