

ALDH Activity Fluorometric Assay Kit

Cat. No. Kit-0075 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

ALDH Activity Assay Kit (Fluorometric) is a quantitative fluorometric determination of ALDH activity.

Description

The NAD-dependent Aldehyde Dehydrogenase (ALDH) plays a vital role in cellular detoxification. It oxidizes various aldehydes and generates the corresponding carboxylic acid. ALDH have been found in every cellular compartment. Based on its structure and function, ALDH comprises 3 major classes in mammals: Class 1 and Class 3 (the tumor form) are located in the cytosol and include both constitutive and induced forms; Class 2 is located in the mitochondria and only exists as the constitutive form. In humans, the ALDH superfamily consists of 19 genes. The mutation of ALDH genes (loss of function) causes human diseases such as Type II hyperprolinemia, pyridoxine-dependent seizure and hyperammonemia. Recent studies show that increased ALDH activity leads to several types of malignancies, serves as a cancer stem cell marker and correlates with poor prognosis. Therefore the early detection of ALDH activity levels can be prognostic and guide the therapeutic strategies. ALDH Activity Assay Kit (Fluorometric) is a robust tool to quantify ALDH enzymatic activity. In this assay, acetaldehyde is oxidized by ALDH to form the NADH which couples with the PicoProbe to generate a potent fluorescence (Ex/Em = 535/587). The ALDH fluorometric assay kit is 10 times more sensitive than the ALDH colorimetric assay and can detect < 0.05 mU ALDH activity (based on our unit definition) in a variety of samples.

Target Species

Mammals

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Usage	For research use only (RUO)
Storage	Store kit at -20°C, protect from light. Let ALDH Assay Buffer warm to room temperature before use. Briefly centrifuge all small vials prior to opening.
Kit Components	ALDH Assay Buffer. WM 25 mlAcetaldehyde. Purple 0.5 mlPicoProbe (in DMSO). Blue 0.4 mlALDH Substrate Mix (Lyophilized). Red 1 vialALDH Positive Control (Lyophilized). Green 1 vialNADH Standard (0.5 µmol, Lyophilized). Yellow 1 vial
Detection method	Fluorometric
Compatible Sample Types	Biological Fluid, Cell Lysate, Cell Culture Supernatant, Plasma, Serum, Tissue Culture Supernatant

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