

Malate Dehydrogenase (MDH) Extraction Reagent

Cat. No.: A1518214 | Pack size: 500 mL | Storage: Store at 2-8°C; protected from light; store at -20°C

Overview

Malate Dehydrogenase (MDH) is one of the key enzymes for malate synthesis, which catalyzes the reversible conversion between malate and oxaloacetate (OAA). It participates in numerous physiological metabolic pathways, including the TCA cycle, C4 cycle, fatty acid oxidation, respiration, nitrogen assimilation, etc. Therefore, MDH plays an important role in plant growth and development. MDH is widely distributed in mitochondria and bacterial cell membranes, and is an enzyme in the tricarboxylic acid cycle. Its properties may vary depending on the enzyme source. MDH is involved in a variety of cellular physiological processes, including mitochondrial energy metabolism, malate-aspartate shuttle system, reactive oxygen species metabolism, disease resistance, etc.

Malate Dehydrogenase (MDH) Extraction Reagent is mainly used for lysing plant tissues and extracting malate dehydrogenase from samples. This reagent is for research use only and not suitable for clinical diagnosis or other applications.

Components

Cat. No.	Component	Size	Storage
A1518214A	MDH Extraction Reagent	500 mL	2-8°C. Store in the dark.
A1518214B	PMSF	1 mL	-20°C. Store in the dark.

Materials Provided by User

1. Distilled water
2. Centrifuge tubes or test tubes, homogenizer or mortar, refrigerated centrifuge

Protocol (For Reference Only)

1. Take plant tissues, wash clean, and cut into pieces.
2. Prepare MDH Extraction Working Solution: Take out MDH Extraction Reagent and PMSF, equilibrate to room temperature. Mix at a ratio of MDH Extraction Reagent: PMSF = 499:1. Prepare fresh before use; do not store for a long time, otherwise the inhibitory efficiency of PMSF will decrease.
3. Add pre-cooled MDH Extraction Working Solution at a ratio of plant tissue: working solution = 1 g:4 mL, then homogenize or grind thoroughly in an ice bath.

4. Centrifuge at $12000 \times g$, 4°C for 20 min. The supernatant is the crude MDH extract. Store at 4°C for MDH detection or other experiments.

Calculation

Crude Enzyme Extract Yield (mL/g) = Supernatant Volume (mL) / Sample Weight (g) $\times$ 100%.

Precautions

1. Experimental materials should be as fresh as possible. If not used immediately, store at -20 to -80°C .
2. Test samples should not contain phosphatase inhibitors, and repeated freeze-thaw cycles should be avoided.
3. If the measured value exceeds the upper limit of the standard curve, dilute the sample with MDH Extraction Working Solution and re-assay.
4. Please use the reagent as soon as possible after opening to avoid affecting experimental results.
5. For your safety and health, please wear lab coat and disposable gloves during operation.

Specifications

Attribute	Value
Synonyms	Malate Dehydrogenase Extraction Reagent MDH Extraction Reagent
Specifications & Purity	BioReagent
Stability And Storage	Each component has a shelf life of 1 year under corresponding storage conditions.
Storage Conditions	Store at $2-8^{\circ}\text{C}$, Protected from light, Store at -20°C
Shipped In	Ice chest + Ice pads. This product requires cold chain shipping. Ground and other economy services are not available.
Grade	BioReagent
Sensitivity	Light-sensitive

Contact & Global Offices

Whether you have a technical question, need help with a quotation, or want to inquire about an order, our regional teams are ready to assist. Please contact the office for your region; for general inquiries, the North American office is the corporate primary.



ALADDIN SCIENTIFIC

Reagents · Kits · Standards

Product Instructions
For Research Use Only
www.aladdinsci.com

NORTH AMERICAN SALES, SUPPORT & GENERAL INQUIRIES

Aladdin Scientific Corporation

14078 Meridian Parkway, Riverside, CA 92518, USA

Phone: 1-833-552-7181

Sales: sales@aladdinsci.com

Customer Service: custserv@aladdinsci.com

EU SALES, LOGISTICS & LOCALIZED SUPPORT

Aladdin Biochem Deutschland GmbH

Westring 2, 33142 Büren, Germany

Phone: +02951 9383958

Support: support.eu@aladdinsci.com

Limitations & Disclaimer

For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.

This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals.

Where any kit component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS) takes precedence over this document for handling, storage, transportation, disposal, and emergency procedures.

Performance depends on sample type, sample condition, handling, and operator technique. Users are responsible for validating the product for their specific application.

Aladdin product labels, SDS, COA, and approved specifications take precedence over this document. If product formulation, label, SDS, storage conditions, pack size, or quality specifications change, this document must be revalidated before use.