

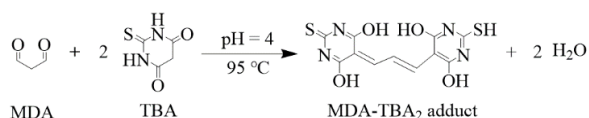
## Malondialdehyde (MDA) Colorimetric Assay Kit (TBS2007, 100 Assays)

### DESCRIPTION

Malondialdehyde (MDA) is a metabolite produced lipid peroxidation in living organisms. One molecule of MDA reacts with 2 molecules of 2-thiobarbituric acid (TBA) yield a 2-ThioBarbituric Acid Reactive Substances (TBARS), which is a chromophore with absorbance maximum at 532 nm.

TBARS is a known biomarker of oxidative status in a biological system, which involves many diseases, such as neurodegenerative diseases, cardiovascular diseases, and cancer.

The MDA Assay provides a sensitive, simple and accurate approach to determine MDA concentration in tissue, cells and other biosamples.



**Synonyms:** Lipid Peroxidation; reactive aldehyde; Thiobarbituric Acid Reactive Substance; TBARS.

### APPLICATION

Direct Assays: Quantitative detection of MDA in cell, tissue, plasma, serum, and urine samples.

### KEY FEATURES

**High-Throughput:** Designed for 96-well plates, allowing multiple samples to be tested at the same time.

**Simple and Rapid Procedure:** The test process is straightforward and takes about 60 minutes to complete.

### KIT CONTENTS

Name	Size
Lysis Buffer	25 ml
Assay Buffer	25ml
MDA Standard (1mM)	100 µL
Detector solution	25 ml
BHT stock (100x)	250 µL

### STORAGE

Store kit at -20°C, avoid repeated freeze-thaw cycles.

### PROTOCOL

Note: All contents should be warm at room temperature before assay.

#### 1. Sample Preparation

##### A: Cell samples

- 1) Prepare a cell suspension ( $1-3 \times 10^7$  cells) in a 1.5 ml microtube. (Note: The suitable cell number may differ depending on the cell line and treatment conditions.)
- 2) After PBS washed cells twice gently, add 150 ul Lysis

Buffer and 1.5 µl BHT stock solution (100x), mix very well.

- 3) Homogenize the samples on ice gently.
- 4) Centrifuge the cell lysate at 10,000 rpm for 5 min and take the supernatant as samples for the assay analysis.

##### B: Tissue samples

- 1) Place the tissue (10–30 mg) in a 1.5 ml microtube.
- 2) Add 150 µl lysis buffer and 1.5 µl BHT stock solution (100x).
- 3) Homogenize the sample on ice gently.
- 4) Transfer the homogenized sample to a new 1.5 ml microtube and centrifuge at 10000 rpm for 5 min.
- 5) Transfer 100 µl of the supernatant to a fresh 1.5 ml microtube as sample for assay analysis.

### 2. Preparation of MDA standard solutions as the table:

Tube	MDA concentration (µM)	Standard Addition	H <sub>2</sub> O (µl)
1	80	40 µl of 1mM	460
2	40	250 µl of Tube1	250
3	20	250 µl of Tube2	250
4	10	250 µl of Tube3	250
5	5	250 µl of Tube4	250
6	2.5	250 µl of Tube5	250
7	1.25	250 µl of Tube6	250
8	0	0	250

### 3. Measurement

1. Sep up a water bath or thermal plate at 95°C before assay.
2. Add 150 µl Assay Buffer to all tubes with screw cap.
3. Add 100 µl standards or samples to the indicated tubes.
4. Add 250 µl Detector Solution to all tubes.
5. Tight the tube with cap. Vortex 10 seconds and quick spin for 10 seconds.
6. Incubate the tubes in the water bath at 95°C for 60 minutes.
7. Cool down tubes in flowing tap water or ice bath to room temperature. Then, spin the tubes briefly.
8. Take 150 µl each mixture into indicated well of the clear 96 well plate.
9. Read OD values using a microplate reader at 532 nm,
10. Using samples OD average (duplicate or triplet) as Y axis value to calculate X value with your standard curve equation, that is your samples MDA concentration (µM).

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### RELATED PRODUCTS

CD38 Cyclase Activity Assay (TBS2100)  
L-Lactate colorimetric assay (TBS2071)  
LDH Cytotoxicity Assay (TBS2002)  
LDH Activity Assay (TBS2012)  
Resazurin Cell Viability (TBS2001)  
CCK-8 Cell Viability Assay (TBS2022)  
GOT Activity Assay (TBS2013)  
Thiol Fluorometric Assay (TBS2026)  
GSH Assay (TBS2028)  
Homocysteine Fluorometric Assay (TBS2091)  
AHCY Inhibitor Screening Assay (TBS2097)  
G6PDH Activity Colorimetric Assay (TBS2102)  
ATP Colorimetric/Fluorometric Assay (TBS2010)  
ADP Colorimetric / Fluorometric Assay (TBS2020)  
Caspase-3 Colorimetric Assay (TBS2030)  
NNMT Inhibitor Screening Assay (TBS2097)  
NNMT Activity Assay (TBS2098)

### Research Use Only

**Fig.1 MDA Standard Curve**

