

OxiSelect TBARS Assay Kit

OxiSelect TBARS Assay Kit (MDA Quantitation)

CATALOG #

AAA44570

PRODUCT SYNONYMS

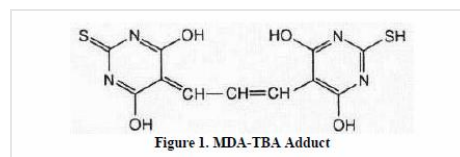
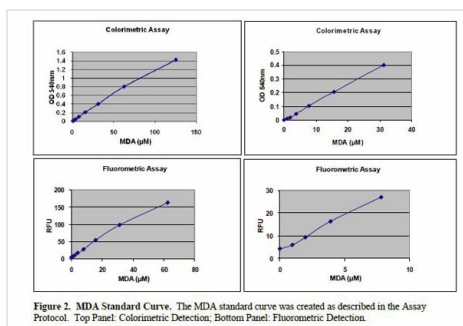
OxiSelect TBARS; OxiSelect TBARS Assay Kit (MDA Quantitation); OxiSelect TBARS assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Store all components at 4 degree C until their expiration dates.

IMAGES



Application Data

Application Data

ADDITIONAL INFORMATION

Related Product Information for OxiSelect TBARS assay kit	Principle of the Assay: The Thiobarbituric Acid Reactive Substances (TBARS) Assay Kit is a tool for the direct quantitative measurement of MDA in biological samples. The unknown MDA containing samples or MDA standards are first reacted with TBA at 95 degree C. After a brief incubation, the samples and standards can be read either spectrophotometrically or fluorometrically. The MDA content in unknown samples is determined by comparison with the predetermined MDA standard curve. Background/Introduction: Lipid peroxidation is a well-defined mechanism of cellular damage in animals and plants. Lipid peroxides are unstable indicators of oxidative stress in cells that decompose to form more complex and reactive compounds such as Malondialdehyde (MDA) and 4-hydroxynonenal (4-HNE), natural bi-products of lipid peroxidation. Oxidative modification of lipids can be induced in vitro by a wide array of pro-oxidant agents and occurs in vivo during aging and in certain disease conditions. Measuring the end products of lipid peroxidation is one of the most widely accepted assays for oxidative damage. These aldehydic secondary products of lipid peroxidation are generally accepted markers of oxidative stress. Thiobarbituric Acid Reactive Substances (TBARS) is a well-established assay for screening and monitoring lipid peroxidation. The rapid and easy protocol has been modified by researchers in the evaluation of drugs, food, as well as human and animal tissue samples. MDA forms a 1:2 adduct with thiobarbituric acid (Figure 1). The MDA-TBA adduct formed from the reaction of MDA in samples with TBA can be measured colorimetrically or fluorometrically. TBARS levels are determined from a Malondialdehyde equivalence standard. The TBARS Assay has provided relevant information concerning free radical activity in disease states and measurement of many compounds anti-oxidant characteristics. Although the specificity of TBARS toward compounds other than MDA has been controversial, the assay continues to be the most widely employed format for monitoring lipid peroxidation. Lipids with higher degrees of unsaturated bonds produce higher TBARS values. Interfering soluble TBARS can be minimized if lipoprotein fractions are first acid precipitated from samples. Biological samples may contain a mixture of thiobarbituric acid reactive substances such as hydroperoxides and aldehydes, which increase in response to oxidative stress. If excessively high TBARS values are obtained, a more specific assay such as HPLC should be employed. The OxiSelect™ TBARS Assay Kit offers a simple, reproducible, and consistent system for the detection of lipid peroxidation in urine, plasma, serum, lysates, and tissue homogenates. This kit includes an MDA standard for use as a positive control. Each kit provides sufficient reagents to perform 200 tests including standard curve and unknown samples.
Product Categories/Family for OxiSelect TBARS assay kit	Oxidative Stress/Damage; Lipid Peroxidation; TBARS Assay
References	1. Armstrong, D. and Browne, R. (1994). Free Radicals in Diagnostic Medicine. 366: 43-58. 2. Armstrong, D., et al. (1998). Free Radicals and Antioxidant Protocols. 108: 315-324. 3. Boyum, A. (1966). J. of Clinical Investigation. 21: Supplement 97. 4. Braun, D. and Fromherz, P. (1997). Applied Physics A.5. Gidez, L., et al. (1982). J. of Lipid Research. 23: 1206-1223. 6. LeFebvre G., et al. (1998). Annals de Biologie Clinique. 56(3): 305-319. 7. Ohkawa, H., et al. (1979). Anal. Biochem. 95: 351-358. 8. Yagi, K. (1998). Free Radicals and Antioxidant Protocols. 108: 101-106. 1. Fu, L. et al. (2012). Ethyl Pyruvate Reduces Ventilation-Induced Neutrophil Infiltration and Oxidative Stress. J. Lipid Res. : 1080-1092. 2. Brindeiro, C.M. et al.(2012).Tempol Prevents Altered K+ Channel Regulation of Afferent Arteriolar Tone in Diabetic Rat Kidney. Hypertension.59:657 - 664. 3. Joshi, S. G. et al. (2011). Nonthermal Dielectric-Barrier Discharge Plasma-Induced Inactivation Involves Oxidative DNA Damage and Membrane Lipid Peroxidation in Escherichia coli. Antimicrob. Agents Chemother. 55:1053-1062. 4. Kasaikina, M.V. et al. (2011). Roles of the 15-kDa Selenoprotein (Sep15) in Redox Homeostasis and Cataract Development Revealed by the Analysis of Sep 15 Knockout Mice. J. Biol. Chem. 286:33203-33212. 5. Fedeles, B. I. et al. (2011). Chemical Genetics Analysis of an Aniline Mustard Anticancer Agent Reveals Complex I of the Electron Transport Chain as a Target. J. Biol. Chem. 286:33910-33920. 6. Song, Y.R. et al. (2010). Activation of Hypoxia-Inducible Factor Attenuates Renal Injury in Rat Remnant Kidney. Nephrol. Dial. Transplant. 25:77-85. 7. Wojciechowski, P. et al. (2010). Resveratrol Arrests and Regresses the Development of Pressure Overload- but Not Volume Overload-Induced Cardiac Hypertrophy in Rats. J. Nutr. 140:962-968. 8. Kwon, H. et al. (2010). Vitamin D3 Upregulated Protein 1 Suppresses TNF--Induced NF-B Activation in Hepatocarcinogenesis. J. Immunol. 185:3980-3989. 9. Fomenko, D.E. et al. (2008). Methionine-R-sulfoxide reductase 1 (MsrB1) Knockout Mice: Roles of MsrB1 in Redox Regulation and Identification of a Novel Selenoprotein form. J. Biol. Chem. 10.1074/jbc.M805770200. 10. Fujita, K. et al. (2008). Effectiveness of Antiplatelet Drugs Against Experimental Non-Alcoholic Fatty Liver Disease. Gut 57:1583-1591.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/assay-kits/oxiselect-tbars/44570>