# ALDetect™ (MDA-specific) Lipid Peroxidation assay kit

Lipid peroxidation is a well-established mechanism of cellular injury in both plants and animals, and is used as an indicator of oxidative stress in cells and tissues. Lipid peroxides, derived from polyunsaturated fatty acids, are unstable and decompose to form a complex series of compounds. These include reactive aldehydes, of which the most abundant is malondialdehyde (MDA). Therefore, measurement of malondialdehyde is widely used as an indicator of lipid peroxidation. Increased levels of lipid peroxidation products have been associated with a variety of chronic diseases in both humans and model systems. MDA reacts readily with amino groups on proteins and other biomolecules to form a variety of adducts, including cross-linked products. MDA also forms adducts with DNA bases that are mutagenic and possibly carcinogenic. DNA-protein cross-links are another result of the reaction between DNA and MDA . The TBARS method is commonly used to measure MDA in biological samples. However, this reaction is relatively nonspecific; both free and protein-bound MDA can react. The BML-AK171 method is designed to assay free MDA or, after a hydrolysis step, total MDA (i.e., free and protein-bound Schiff base conjugates). The assay conditions serve to minimize interference from other lipid peroxidation products, such as 4-hydroxyalkenals.

**Citations:** 9 View Online »

## Ordering Information

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| | |
|---|---|
| **BML-AK171-0001** | 100 tests |

## Manuals, SDS & CofA

View Online »

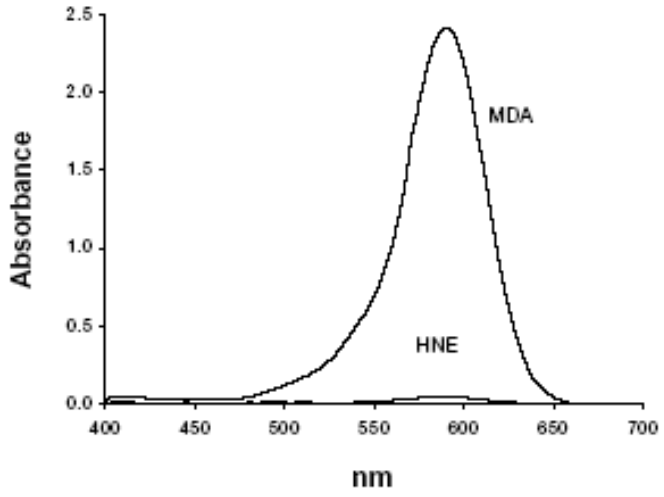



**Figure 2:** Absorption spectra obtained from the reaction of NMPI with MDA (21 µM) or HNE (19 µM) in the presence of hydrochloric acid.

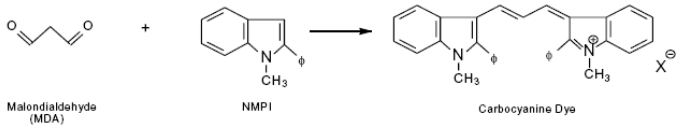



**Figure 1:** N-methyl-2-phenylindole (NMPI) reacts with malondialdehyde to form an intensely colored carbocyanine dye with a maximum absorption at 586 nm.

## Handling & Storage

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|---|---|
| **Use/Stability** | Store stock reagents at 4°C. Do not allowed the capped reagent bottles to sit at room temperature for long periods of time. Unopened reagents are stable until the indicated expiration date. |
| **Handling** | Do not freeze. |
| **Long Term Storage** | +4°C |
| **Shipping** | Blue Ice – Dangerous Good |

## Regulatory Status

RUO - Research Use Only

## Product Details

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|---|---|
| **Application** | Colorimetric detection |
| **Contents** | **Reagent R1** (Prod. No. BML-KI527) (3x18ml;N-methyl-2-phenylindole, in acetonitrile)<br>**Reagent R2** (Prod. No. BML-KI606) (1×16.5ml; Conc. Hydrochloric acid)<br>**MDA Standard** (Prod. No. BML-KI529) (1ml; 1,1,3,3-tetramethoxypropane (TMOP) in Tris-hydrochloric acid)<br>**BHT** (Prod. No. BML-KI530) (2ml; Butylated hydroxytoluene in acetonitrile)<br>**Probucol** (Prod. No. BML-KI531) (1.1ml; Probucol in methanol)<br>**Methanol** (Prod. No. BML-KI532) (30ml) |

**Last modified: May 29, 2024**

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