

OxiSelect Myeloperoxidase Activity Assay Kit

OxiSelect Myeloperoxidase Activity Assay Kit (Colorimetric)

CATALOG #
AAA44507

PRODUCT SYNONYMS

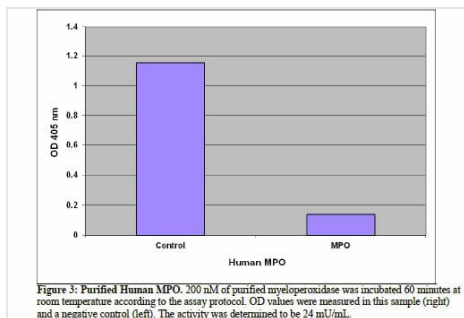
OxiSelect Myeloperoxidase Activity; OxiSelect Myeloperoxidase Activity Assay Kit (Colorimetric); OxiSelect Myeloperoxidase Activity assay kit

PRODUCT SPECIFICATIONS

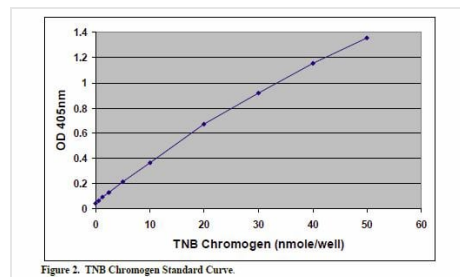
Preparation and Storage

4 degree C

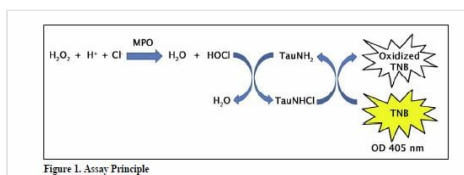
IMAGES



Application Data



Application Data



Application Data

ADDITIONAL INFORMATION

Related Product Information for OxiSelect Myeloperoxidase Activity assay kit	Principle of the Assay: The OxiSelect™ Myeloperoxidase Chlorination Activity Assay Kit is a quantitative assay for measuring the myeloperoxidase activity within a sample. The MPO enzyme catalyzes the reaction of hydrogen peroxide (H₂O₂) with chloride ions to create hypochlorous acid (HOCl), which rapidly reacts with taurine to produce a stable taurine chloramine product. This step readily neutralizes the HOCl, which would otherwise accumulate and inactivate MPO. A catalase-containing stop solution is added to stop MPO catalysis by eliminating hydrogen peroxide. Finally, taurine chloramine reacts with the yellow TNB chromogen probe, with a decrease in color indicating higher MPO activity (Figure 1). Absorbance is measured at 405-412 nm. The myeloperoxidase activity in unknown samples is determined by comparison with the predetermined TNB chromogen standard curve. The rate of chromophore reduction is proportional to the concentration of myeloperoxidase activity within the sample. Background/Introduction: Myeloperoxidase (MPO) is a heme-based peroxidase enzyme responsible for antimicrobial activity against a wide range of organisms. MPO is copiously expressed in stimulated neutrophil granulocytes, where it catalyzes the production of hypochlorous acids, such as hypochlorous acid (HOCl), from hydrogen peroxide (H₂O₂) and chloride ion (Cl⁻), or other halides. The characteristic heme green pigment of MPO can be seen in secretions containing neutrophils such as pus and mucus. Myeloperoxidase has been implicated in many disease states including arthritis, cancer, renal dysfunction, and cystic fibrosis. While myeloperoxidase deficiency is a hereditary disease that results in immune deficiency, antibodies against MPO have been linked to various types of vasculitis. The reactive species it creates may also damage normal tissues, thereby contributing to inflammation. An association of elevated MPO levels and coronary artery disease has been demonstrated and it has been reported that the enzyme could serve as a predictor of myocardial infarction in certain patients. The numerous roles MPO plays in the innate immune response and disease states make it a target for potential therapies. OxiSelect™ Myeloperoxidase Chlorination Activity Assay Kit is a quantitative assay for measuring myeloperoxidase activity within plasma, tissues, cell extracts, and purified samples. The assay is not species specific and should be well-suited to active MPO enzyme systems. Myeloperoxidase activity is defined as follows: 1 unit of enzyme reduces 1 umole hydrogen peroxide (H₂O₂) per minute at pH 6.0 and 25 degree C, and generates taurine chloramine to consume 1 umole of chromophore. Each kit provides sufficient reagents to perform up to 200 assays, including standard curve and unknown samples.
Product Categories/Family for OxiSelect Myeloperoxidase Activity assay kit	Oxidative Stress/Damage ; Reactive Oxygen Species (ROS) Assays ; Myeloperoxidase Assays
References	1. Kettle, A.J., et al. J. Clin. Invest. (1994) 233: 502-512. 2. Marquez, L. A., et al. J. Biol. Chem. (1994) 269: 7950-7956. 3. Nauseef, W. (2007) Isolation of Human Neutrophils From Venous Blood. In Neutrophil Methods and Protocols (Quinn M. T. et. al. eds.), Humana Press Totowa, NJ, 15-21. 4. Shih, J., et. al. Clin.Chem. (2008) 54: 1076-1079. 5. Weiss, S. J., et al. J. Clin. Invest. (1982) 70: 598-607.

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.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
Online datasheet: <https://stage.aaabiotech.com/assay-kits/oxiselect-myeloperoxidase-activity/44507>