Myeloperoxidase (MPO) Activity Assay Kit (Colorimetric) ab105136

Overview

Product name: Myeloperoxidase (MPO) Activity Assay Kit (Colorimetric)

Detection method: Colorimetric

Sample type: Cell culture supernatant, Urine, Serum, Other biological fluids, Tissue Homogenate

Assay type: Enzyme activity

Assay time: 1h 00m

Species reactivity: Reacts with: Mammals, Other species

Product overview:
Myeloperoxidase (MPO) Activity Assay Kit ab105136 is a rapid, simple, sensitive, and reliable colorimetric assay suitable for use as a high throughput MPO activity assay.

In the MPO assay protocol, myeloperoxidase produces HClO from H_2O_2 and Cl-. The HClO reacts with taurine to generate the taurine chloramine, which subsequently reacts with the DTNB probe to eliminate color (absorbance at 412 nm). The absorbance is inversely proportional to the amount of MPO enzyme.

This MPO assay kit can be used to detect myeloperoxidase as low as 0.05 mU per well.

MPO assay protocol summary:
- add samples to wells (and assay buffer only to wells for standards)
- add reaction mix to sample wells and incubate for 30 min to 2 hrs
- add stop mix and incubate for 10 min
- add TNB reagent/standard to all wells and incubate for 5-10 min
- analyze with a microplate reader

Notes:
This product is manufactured by BioVision, an Abcam company and was previously called K744 Myeloperoxidase (MPO) Colorimetric Activity Assay Kit. K744-100 is the same size as the 100 test size of ab105136.

Myeloperoxidase (MPO) is a peroxidase enzyme (EC 1.11.1.7) most abundantly expressed in neutrophil granulocytes. It is a lysosomal protein stored in the azurophilic granules of the neutrophil. Myeloperoxidase contains a heme pigment which causes its green color in secretions rich in neutrophils, such as pus and some forms of mucus. Myeloperoxidase catalyzes the production of hypochlorous acid (HClO) from hydrogen peroxide (H_2O_2) and chloride anion (Cl^-, or the equivalent from a non-chlorine halide). Myeloperoxidase also oxidizes tyrosine to a tyrosyl...
radical using hydrogen peroxide as an oxidizing agent.

Abcam has not and does not intend to apply for the REACH Authorisation of customers’ uses of products that contain European Authorisation list (Annex XIV) substances. It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

**Platform**

Microplate reader

**Properties**

**Storage instructions**

Store at -20°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>100 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTNB Probe</td>
<td>1 x 50µl</td>
</tr>
<tr>
<td>MPO Assay Buffer II</td>
<td>1 x 25ml</td>
</tr>
<tr>
<td>MPO Positive Control</td>
<td>1 vial</td>
</tr>
<tr>
<td>Hydrogen Peroxide Solution II</td>
<td>1 x 50µl</td>
</tr>
<tr>
<td>Stop Mix</td>
<td>1 x 20µl</td>
</tr>
<tr>
<td>TCEP</td>
<td>1 x 50µl</td>
</tr>
</tbody>
</table>

**Function**

Part of the host defense system of polymorphonuclear leukocytes. It is responsible for microbicidal activity against a wide range of organisms. In the stimulated PMN, MPO catalyzes the production of hypohalous acids, primarily hypochlorous acid in physiologic situations, and other toxic intermediates that greatly enhance PMN microbicidal activity.

**Involvement in disease**

Defects in MPO are the cause of myeloperoxidase deficiency (MPD) [MIM:254600]. MPD is an autosomal recessive defect that results in disseminated candidiasis.

**Sequence similarities**

Belongs to the peroxidase family. XPO subfamily.

**Cellular localization**

Lysosome.

**Images**
MPO activity in indicated cells was measured using the commercially available MPO Activity Assay Kit (n = 3).

a. Measurement of MPO activity using WBC lysate (3 μg) and MPO Positive Control (5 and 10 μL). b. MPO specific activity in WBC lysate.
Typical Standard Curve

Typical standard curve for ab105136.

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