Human Myeloperoxidase ELISA Kit ab195212

Overview

Product name: Human Myeloperoxidase ELISA Kit
Detection method: Colorimetric

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>5</td>
<td></td>
<td></td>
<td>2.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>3</td>
<td></td>
<td></td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Sample type: Cell culture supernatant, Saliva, Milk, Urine, Serum, Plasma, Cell culture extracts, Tissue Extracts

Assay type: Sandwich (quantitative)

Sensitivity: 2.5 pg/ml

Range: 15.6 pg/ml - 2000 pg/ml

Recovery

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell culture supernatant</td>
<td>108</td>
<td>105% - 112%</td>
</tr>
<tr>
<td>Saliva</td>
<td>103</td>
<td>96% - 108%</td>
</tr>
<tr>
<td>Milk</td>
<td>114</td>
<td>107% - 121%</td>
</tr>
<tr>
<td>Urine</td>
<td>104</td>
<td>101% - 105%</td>
</tr>
<tr>
<td>Serum</td>
<td>104</td>
<td>102% - 106%</td>
</tr>
<tr>
<td>Heparin Plasma</td>
<td>98</td>
<td>92% - 106%</td>
</tr>
</tbody>
</table>
### Abcam's Myeloperoxidase (MPO) SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit

Abcam's Myeloperoxidase (MPO) in vitro SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Myeloperoxidase protein in human serum, plasma, cell culture supernatant, urine, milk, saliva, cell and tissue extracts.

The SimpleStep ELISA® employs an affinity tag labeled capture antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB substrate is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

### Sensitivity:

- Samples diluted in Sample Diluent NS – 2.5 pg/mL
- Samples diluted in 1X Cell Extraction Buffer – 5.9 pg/mL

### Notes

Human Myeloperoxidase (MPO) is a hemoprotein expressed in the neutrophils (polymorphonuclear leukocytes) and is secreted during activation. Myeloperoxidase catalyzes the oxidation of chloride ions to hypochlorus acid, which is a potent antimicrobial agent. Myeloperoxidase pro-oxidative and pro-inflammatory properties cause an increase in MPO in multiple diseases including heart disease, myocardial infarction, and multiple sclerosis. Myeloperoxidase is a clinical marker of myocardial infarction and cardiovascular disease.

### Tested applications

- Suitable for: Sandwich ELISA

### Platform

- Microplate (12 x 8 well strips)

### Properties

- **Storage instructions:** Store at +4°C. Please refer to protocols.

### Components

| 10X Myeloperoxidase (MPO) Capture Antibody | 1 x 600µl | 1 x 96 tests |

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<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA Plasma</td>
<td>70</td>
<td>64% - 76%</td>
</tr>
<tr>
<td>Citrate Plasma</td>
<td>108</td>
<td>103% - 117%</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.

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**Applications**

Our *Abpromise guarantee* covers the use of ab195212 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

**Application** | Abreviews | Notes
--- | --- | ---
Sandwich ELISA | | Use at an assay dependent concentration.

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**Images**
Example of Myeloperoxidase standard curve in Sample Diluent NS.

Background-subtracted data values (mean +/- SD) are graphed.

Example of Myeloperoxidase standard curve in 1X Cell Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.

Myeloperoxidase is released from neutrophils upon exposure to activated platelets. Use platelet poor plasma’s for measuring circulating levels of Myeloperoxidase. The concentrations of Myeloperoxidase were measured in duplicate and interpolated from the Myeloperoxidase standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Interpolated concentrations of Myeloperoxidase in matched donor of plasma and platelet poor plasma.
The concentrations of Myeloperoxidase were measured in duplicate and interpolated from the Myeloperoxidase standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Myeloperoxidase concentration was determined to be 1042 ng/mL in Human saliva.

PBMC were grown in the absence (unstimulated) or presence of phytohemagglutinin (PHA) (stimulated) for 2 days. Myeloperoxidase was measured in 2-fold diluted cell culture supernatants of unstimulated and PHA stimulated PBMC and media control. Measured values were interpolated from the Myeloperoxidase Standard Curve diluted in Sample Diluent NS and corrected for dilution factor. Mean of duplicate values +/-SD are graphed: 162 ng/mL unstimulated, 183 ng/mL stimulated, and undetectable in media.

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