**Product datasheet**

**Human MIP1α ELISA Kit ab214569**

**Overview**

**Product name**
Human MIP1α ELISA Kit

**Detection method**
Colorimetric

**Precision**

<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>1.9%</td>
<td></td>
<td></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>7.2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sample type**
Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma

**Assay type**
Sandwich (quantitative)

**Sensitivity**
0.4 pg/ml

**Range**
1.56 pg/ml - 100 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>101</td>
<td>100% - 102%</td>
</tr>
<tr>
<td>Serum</td>
<td>99</td>
<td>96% - 101%</td>
</tr>
<tr>
<td>Hep Plasma</td>
<td>97</td>
<td>94% - 100%</td>
</tr>
<tr>
<td>EDTA Plasma</td>
<td>100</td>
<td>92% - 105%</td>
</tr>
<tr>
<td>Cit plasma</td>
<td>95</td>
<td>91% - 101%</td>
</tr>
</tbody>
</table>

**Assay time**
1h 30m
Assay duration

One step assay

Species reactivity

Reacts with: Human

Does not react with: Cow

Product overview

Human MIP1α ELISA Kit (ab214569) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of MIP1α protein in cell culture supernatant, serum, cit plasma, edta plasma, and hep plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human MIP1α with 0.4 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (ab203359) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes

Macrophage Inflammatory Protein 1-alpha (MIP1α, also known as CCL3) is a monokine with both inflammatory and chemokine properties. MIP-1-alpha can bind to CCR1, CCR4 and CCR5. In addition, it is one of the major HIV-suppressive factors produced by CD8+ T-cells. Recombinant MIP-1-alpha induces a dose-dependent inhibition of different strains of HIV-1, HIV-2, and simian immunodeficiency virus (SIV).

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

Store at +4°C. Please refer to protocols.

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Wash Buffer PT (ab206977)</td>
<td>1 x 20ml</td>
</tr>
<tr>
<td>Antibody Diluent CPI - HAMA Blocker (ab193969)</td>
<td>1 x 6ml</td>
</tr>
<tr>
<td>10X Human MIP1α Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Human MIP1α Detector Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>Human MIP1α Lyophilized Recombinant Protein</td>
<td>2 vials</td>
</tr>
<tr>
<td>Plate Seals</td>
<td>1 unit</td>
</tr>
<tr>
<td>SimpleStep Pre-Coated 96-Well Microplate (ab206978)</td>
<td>1 unit</td>
</tr>
</tbody>
</table>
**Function**

Monokine with inflammatory and chemokinetic properties. Binds to CCR1, CCR4 and CCR5. One of the major HIV-suppressive factors produced by CD8+ T-cells. Recombinant MIP-1-alpha induces a dose-dependent inhibition of different strains of HIV-1, HIV-2, and simian immunodeficiency virus (SIV).

**Sequence similarities**

Belongs to the intercrine beta (chemokine CC) family.

**Post-translational modifications**

N-terminal processed form LD78-alpha(4-69) is produced by proteolytic cleavage after secretion from HTLV1-transformed T-cells.

**Cellular localization**

Secreted.

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**Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Diluent NS (ab193972)</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 12ml</td>
</tr>
<tr>
<td>TMB Development Solution</td>
<td>1 x 12ml</td>
</tr>
</tbody>
</table>

**SimpleStep ELISA technology**

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

**Standard curve comparison**

Standard curve comparison between human MIP1a SimpleStep ELISA® kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows a 24-fold increase in sensitivity.
Background-subtracted data values (mean +/- SD) are graphed.

The concentrations of MIP1a were measured in duplicates, interpolated from the MIP1a standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (EDTA) 50%, plasma (heparin) 50%) and plasma (citrate) 25%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Interpolated concentrations of spiked MIP1a in human serum and plasma samples.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MIP1a concentration was determined to be 5.5 pg/mL with a range of 1.3 – 12.1 pg/mL.

Serum from ten individual healthy human female donors was measured in duplicate.
The concentrations of MIP1a were measured in duplicates, interpolated from the MIP1a standard curves and corrected for sample dilution. Undiluted samples are as follows: unstimulated 6.35% and stimulated 0.2%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean MIP1a concentration was determined to be 0.241 ng/mL in unstimulated PBMC cell culture supernatant and 40.8 ng/mL in stimulated.

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