Product datasheet

HIV1 p24 ELISA Kit ab218268
SimpleStep ELISA

Overview

Product name: HIV1 p24 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>3</td>
<td></td>
<td></td>
<td>4.5%</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>5</td>
<td></td>
<td></td>
<td>4.7%</td>
</tr>
</tbody>
</table>

Sample type

- Cell culture supernatant, Serum, Cell culture extracts, Tissue Extracts, Heparin Plasma, EDTA Plasma

Assay type

- Sandwich (quantitative)

Sensitivity

- 1.1 pg/ml

Range

- 4.69 pg/ml - 300 pg/ml

Recovery

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>105</td>
<td>94% - 117%</td>
</tr>
<tr>
<td>Cell culture extracts</td>
<td>107</td>
<td>103% - 113%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>102</td>
<td>94% - 107%</td>
</tr>
<tr>
<td>Heparin Plasma</td>
<td>102</td>
<td>100% - 103%</td>
</tr>
<tr>
<td>EDTA Plasma</td>
<td>98</td>
<td>93% - 103%</td>
</tr>
</tbody>
</table>

Sample specific recovery
HIV1 p24 in vitro SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of HIV1 p24 protein in human serum, plasma, cell culture supernatant, and cell and tissue extract samples.

The SimpleStep ELISA® employs an affinity tag labeled capture antibody and a reporter conjugated detector 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 in 1X Cell Extraction Buffer PTR: 1.1 pg/mL
Samples in Sample Diluent NS: 1.3 pg/mL
Samples in Sample Diluent 50BS: 1.5 pg/mL

Notes

HIV1 p24 (capsid) protein is essential for HIV-1 viral replication and for the HIV-1 infection of non-dividing cells. HIV1 p24 proteins form viral capsid that encapsulates the genomic HIV1 RNA. HIV1 p24 concentration in host plasma is commonly used as indicator of viral load. Upon the viral infection, the development of anti-HIV1 p24 host humoral responses leads to immune complex formation and reduction of the free HIV1 p24 concentration in circulation.
HIV1 performs highly complex orchestrated tasks during the assembly, budding, maturation and infection stages of the viral replication cycle. During viral assembly, the proteins form membrane associations and self-associations that ultimately result in budding of an immature virion from the infected cell. Gag precursors also function during viral assembly to selectively bind and package two plus strands of genomic RNA. Capsid protein p24 probably forms the conical core of the virus that encapsulates the genomic RNA-nucleocapsid complex.

Cellular localization

Membrane

Applications

Our Abpromise guarantee covers the use of ab218268 in the following tested applications.

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandwich ELISA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
</tbody>
</table>

ELISA Protocol Summary

Other - HIV1 p24 ELISA Kit (ab218268)
Background-subtracted data values (mean +/- SD) are graphed.

Example of HIV p24 standard curve in Sample Diluent 50BS

Example of HIV p24 standard curve in Sample Diluent NS

Example of HIV p24 standard curve in 1X Cell Extraction Buffer PTR

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The concentrations of HIV1 p24 were measured in duplicates, interpolated from the HIV1 p24 standard curves and corrected for sample dilution. Undiluted samples are as follows: human serum 100% (neat), human plasma (heparin) 100% (neat), human plasma (EDTA) 100% (neat), and rhesus macaque plasma (EDTA) 100% (neat). The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Interpolated concentrations of spike HIV1 p24 in human serum, human plasmas, and rhesus macaque plasma

The concentrations of HIV1 p24 were measured in duplicates, interpolated from the HIV1 p24 standard curves and corrected for sample dilution. Undiluted samples are as follows: Jurkat cell extract 100 µg/mL, RPMI + 10% FBS cell culture media 100% (neat). The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Interpolated concentrations of spike HIV1 p24 in Jurkat Cell Extract and RPMI + 10% FBS cell culture media
Serial dilutions of recombinant HIV1 p24 (group M, subtype B, strain 92418), HIV1 p24 (group M, subtype C, strain 92BR025) and HIV1 p24 (group O, strain BCF06) were prepared within the working range of the assay and assayed for reactivity. O.D. values within the linear range of each protein are graphed.

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