### Overview

**Product name**  
Human Interferon alpha 1 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><strong>Intra-assay</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>3</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inter-assay</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>5</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Sample type

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

#### Assay type

- Sandwich (quantitative)

#### Sensitivity

- 1 pg/ml

#### Range

- 4.68 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>89</td>
<td>87% - 92%</td>
</tr>
<tr>
<td>Cell culture extracts</td>
<td>105</td>
<td>102% - 108%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>93</td>
<td>92% - 94%</td>
</tr>
<tr>
<td>Heparin Plasma</td>
<td>91</td>
<td>85% - 98%</td>
</tr>
<tr>
<td>EDTA Plasma</td>
<td>87</td>
<td>81% - 90%</td>
</tr>
</tbody>
</table>
**Citrate Plasma**

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citrate Plasma</td>
<td>77</td>
<td>76% - 78%</td>
</tr>
</tbody>
</table>

**Assay time**

1h 30m

**Assay duration**

One step assay

**Species reactivity**

Reacts with: Human

**Product overview**

Interferon alpha-1 *in vitro* SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Interferon alpha-1 protein in human serum, plasma, cell culture supernatants, and cell and tissue extracts.

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 Sample Diluent NS: 1.1 pg/mL

Samples in 1X Cell Extraction Buffer PTR: 1 pg/mL

**Notes**

Interferon alpha-1 belongs to a group of functionally related but distinct proteins of interferon alpha family that share around 80% identity of their amino acid sequences. Members of the interferon-alpha family have both anti-viral and immunomodulatory activities on target cells.

**Tested applications**

Suitable for: Sandwich ELISA

**Platform**

Pre-coated microplate (12 x 8 well strips)

**Properties**

**Storage instructions**

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

**Components**

<table>
<thead>
<tr>
<th>Components</th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Human Interferon alpha-1 Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Human Interferon alpha-1 Detector Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Wash Buffer PT <em>(ab206977)</em></td>
<td>1 x 20ml</td>
</tr>
<tr>
<td>50X Cell Extraction Enhancer Solution <em>(ab193971)</em></td>
<td>1 x 1ml</td>
</tr>
<tr>
<td>5X Cell Extraction Buffer PTR <em>(ab193970)</em></td>
<td>1 x 10ml</td>
</tr>
</tbody>
</table>
Produced by macrophages, IFN-alpha have antiviral activities. Interferon stimulates the production of two enzymes: a protein kinase and an oligoadenylate synthetase.

Sequence similarities
Belongs to the alpha/beta interferon family.

Cellular localization
Secreted.

**Applications**

Our Abpromise guarantee covers the use of ab213479 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>

**Images**

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.

Other - Human Interferon alpha 1 ELISA Kit (ab213479)
Example of human Interferon alpha-1 standard curve in Sample Diluent NS.

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

Example of human Interferon alpha-1 standard curve in 1X Cell Extraction Buffer PTR.

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

The concentrations of Interferon alpha-1 were measured in duplicates, interpolated from the Interferon alpha-1 standard curves and corrected for sample dilution. Undiluted samples are as follows: plasma (EDTA) 100%, plasma (citrate) 100%, plasma (heparin) 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Interpolated concentrations of spike Interferon alpha-1 in human plasma samples.
The concentrations of Interferon alpha-1 were measured in duplicates, interpolated from the Interferon alpha-1 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 100%, cell culture media (RPMI1640 + 10% FBS) 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

The concentrations of Interferon alpha-1 were measured in duplicate and interpolated from the Interferon alpha-1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Interferon alpha-1 concentration was determined to be 126 pg/mL in extract of HEK293T cells overexpressing Interferon alpha-1.
The concentrations of Interferon alpha-1 were measured in duplicate and interpolated from the Interferon alpha-1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Interferon alpha-1 concentration was determined to be 427.9 pg/mL in 75 IU/mL WHO International Standard INTERFERON ALPHA (Human leukocyte-derived) NIBSC 94/784.

The concentrations of Interferon alpha-1 were measured in three different dilutions in duplicate and interpolated from the Interferon alpha-1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted in ng Interferon alpha-1 per mg of extract (mean +/- SD, n=3). Interferon alpha-1 concentration was determined to be 647.6 ng/mg in extract of HEK293T cells overexpressing Interferon alpha-1. Values for the empty vector were below the minimum detectable dose.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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