### Human IFN gamma ELISA Kit ab174443

**Overview**

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>102</td>
<td>98% - 104%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>86</td>
<td>77% - 93%</td>
</tr>
<tr>
<td>Heparin Plasma</td>
<td>244</td>
<td>197% - 298%</td>
</tr>
<tr>
<td>EDTA Plasma</td>
<td>122</td>
<td>117% - 124%</td>
</tr>
<tr>
<td>Citrate Plasma</td>
<td>107</td>
<td>96% - 115%</td>
</tr>
</tbody>
</table>

**Assay time**

1h 30m
Assay duration: One step assay

Species reactivity: Reacts with: Human

Product overview:
Abcam's IFN gamma in vitro SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of IFN-gamma protein in human cell culture supernatant, plasma and serum 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.

Notes:
IFN gamma (IFNG) is produced by lymphocytes activated by specific antigens or mitogens. IFN gamma, in addition to having antiviral activity, has important immunoregulatory functions. It is a potent activator of macrophages, it has antiproliferative effects on transformed cells and it can potentiate the antiviral and antitumor effects of the type I interferons.

Tested applications:
Suitable for: Sandwich ELISA

Platform:
Microplate

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 Human IFNG Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Human IFNG Detector Antibody</td>
<td>1 x 600µl</td>
</tr>
<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>Human IFNG Lyophilized Recombinant Protein</td>
<td>2 vials</td>
</tr>
<tr>
<td>Plate Seals</td>
<td>1 unit</td>
</tr>
<tr>
<td>Sample Diluent NBP</td>
<td>1 x 20ml</td>
</tr>
<tr>
<td>Sample Diluent NS (ab193972)</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>SimpleStep Pre-Coated 96-Well Microplate (ab206978)</td>
<td>1 unit</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 12ml</td>
</tr>
</tbody>
</table>
Function
Produced by lymphocytes activated by specific antigens or mitogens. IFN-gamma, in addition to having antiviral activity, has important immunoregulatory functions. It is a potent activator of macrophages, it has antiproliferative effects on transformed cells and it can potentiate the antiviral and antitumor effects of the type I interferons.

Tissue specificity
Released primarily from activated T lymphocytes.

Involvement in disease
In Caucasians, genetic variation in IFNG is associated with the risk of aplastic anemia (AA) [MIM:609135]. AA is a rare disease in which the reduction of the circulating blood cells results from damage to the stem cell pool in bone marrow. In most patients, the stem cell lesion is caused by an autoimmune attack. T-lymphocytes, activated by an endogenous or exogenous, and most often unknown antigenic stimulus, secrete cytokines, including IFN-gamma, which would in turn be able to suppress hematopoiesis.

Sequence similarities
Belongs to the type II (or gamma) interferon family.

Post-translational modifications
Proteolytic processing produces C-terminal heterogeneity, with proteins ending alternatively at Gly-150, Met-157 or Gly-161.

Cellular localization
Secreted.

Applications
Our Abpromise guarantee covers the use of ab174443 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>Use at an assay dependent concentration.</td>
<td></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.
Example IFNG standard curve for cell culture supernatant samples measurements.

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

Example IFNG standard curve for serum/plasma samples measurements.

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

Comparison of secreted IFNG in unstimulated and PHA-stimulated Human PBMC.

PBMC were grown in the absence or presence of phytohemagglutinin (PHA) for 2 days. IFNG concentrations were measured in 12X and 6X diluted cell culture supernatants of the unstimulated PBMC and the stimulated PBMC, and media. Raw data values (mean +/-SD, n=3) are graphed. The dotted line represents zero sample background.
The concentrations of IFNG were interpolated from data values shown in Figure 3 using IFNG standard curve and corrected for sample dilution. The mean IFNG concentration was determined to be 1.8 ng/mL in unstimulated PBMC supernatants and 177.2 ng/mL in stimulated PBMC supernatants.

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