Human Carcinoembryonic Antigen ELISA Kit (CD66e)
ab183365
SimpleStep ELISA®

Overview

Product name
Human Carcinoembryonic Antigen ELISA Kit (CD66e)

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>HeLa</td>
<td>5</td>
<td></td>
<td></td>
<td>4.4%</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>HeLa</td>
<td>3</td>
<td></td>
<td></td>
<td>3.3%</td>
</tr>
</tbody>
</table>

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

Assay type
Sandwich (quantitative)

Sensitivity
0.235 ng/ml

Range
1 ng/ml - 65 ng/ml

Recovery

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>103</td>
<td>94% - 118%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>93</td>
<td>83% - 119%</td>
</tr>
<tr>
<td>Hep Plasma</td>
<td>97</td>
<td>94% - 99%</td>
</tr>
<tr>
<td>EDTA Plasma</td>
<td>100</td>
<td>97% - 107%</td>
</tr>
<tr>
<td>Cit plasma</td>
<td>94</td>
<td>89% - 101%</td>
</tr>
</tbody>
</table>
**Assay time** | 1h 30m
---|---
**Assay duration** | One step assay
**Species reactivity** | Reacts with: Human
**Product overview**
Human Carcino Embryonic Antigen SimpleStep ELISA® kit has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency. This version will be discontinued by June 2020 unless inventory is depleted beforehand. The new version is available as [ab264604](https://www.abcam.com).

Human CEA SimpleStep ELISA® kit is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of CEA/CD66e protein in human serum, plasma, cell culture supernatant, cell and tissue lysates. Quantitate human CEA with 235 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](https://www.abcam.com)) is available to use as an alternative to the 96-well microplate provided with SimpeStep ELISA® kits.

**Sensitivity:**
Samples diluted in Sample Diluent NS - 700 pg/mL
Samples diluted in Sample Diluent 10 BP - 623 pg/mL
Samples diluted in 1X Cell Extraction Buffer - 235 pg/mL

**Notes**
CEA/CD66E is endcoded by the CECAM5 gene which produces a cell adhesion molecule consisting of an Ig variable region-like amino terminal domain followed by up to six Ig constant region-like domains anchored to the cell membrane by either a glycosylphosphatidylinositol (GPI) moiety or a proteinaceous transmembrane and cytoplasmic domain. CEA is normally expressed on epithelial cells and is found abundantly on the apical surface of the gastrointestinal epithelium, as well as the nasopharynx, lung, urogenital tract, and sweat glands. Under physiologic conditions, only low amounts of soluble CEA can be detected in serum. However, in many different cancers, CEA is highly up regulated.

**Platform**
Microplate

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

**Components**
<table>
<thead>
<tr>
<th></th>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Human CEA Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
</tbody>
</table>
Carcino Embryonic Antigen (CEA) is synthesised during development in the fetal gut, and is re-expressed in increased amounts in intestinal carcinomas and several other tumors. Antibodies to CEA are useful in identifying the origin of various metastatic adenocarcinomas and in distinguishing pulmonary adenocarcinomas (60 to 70% are CEA+) from pleural mesotheliomas (rarely or weakly CEA+).

**Cellular localization**

Cell Membrane

**Relevance**

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**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.
Example of CEA standard curve diluted in Sample Diluent NS.

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

Example of CEA standard curve prepared using Sample Diluent 10BP.

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

Titration of HeLa and LoVo extracts within the working range of the assay.

Background subtracted data from duplicate measurements are plotted.
Cells were cultured for 2 days prior to collection of conditioned media supernatants. Background subtracted data from duplicate measurements are plotted. Quantitation of CEA secretion in HeLa and LoVo cells. Interpolated values of secreted CEA were calculated and multiplied by appropriate dilution factor.

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