### Human Carcinoembryonic Antigen ELISA Kit (CD66e)

**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>

### Inter-assay

<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, Heparin Plasma, EDTA Plasma, Citrate 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>Heparin 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>Citrate 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
Carcinoembryonic Antigen (CEA/CD66e) in vitro SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of CEA/CD66e protein in human serum, plasma, cell culture supernatant, cell and tissue lysates.

The SimpleStep ELISA® employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte antibody in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunofinity 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 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 encoded 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.

Tested applications
Suitable for: Sandwich ELISA

Platform
Microplate

Properties

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

Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Human CEA Capture Antibody</td>
<td>1 x 600µl</td>
</tr>
</tbody>
</table>

1 x 96 tests
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+).

Relevance

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

Applications

Our Abpromise guarantee covers the use of ab183365 in the following tested applications.

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

Application | Abreviews | Notes
---|---|---
Sandwich ELISA | | Use at an assay dependent concentration.

Images
ELISA Protocol Summary

Other - Human Carcinoembryonic Antigen ELISA Kit (CD66e) (ab183365)

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.

Comparison of secreted CEA in HeLa and LoVo Cells

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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