Human GLP1 (7-36) ELISA Kit ab184857

Overview

**Product name** Human GLP1 (7-36) ELISA Kit  
**Detection method** Colorimetric

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human serum</td>
<td>8</td>
<td></td>
<td></td>
<td>7%</td>
</tr>
</tbody>
</table>

**Intra-assay**

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>CV%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human serum</td>
<td>3</td>
<td></td>
<td></td>
<td>9%</td>
</tr>
</tbody>
</table>

**Inter-assay**

**Sample type** Cell culture supernatant, Serum, Hep Plasma, Cit plasma  
**Assay type** Sandwich (quantitative)  
**Sensitivity** 25 pg/ml  
**Range** 59.6 pg/ml - 1000 pg/ml  
**Recovery**

<table>
<thead>
<tr>
<th>Sample type</th>
<th>Average %</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum</td>
<td>109</td>
<td>105% - 112%</td>
</tr>
<tr>
<td>Cell culture media</td>
<td>99</td>
<td>93% - 102%</td>
</tr>
<tr>
<td>Hep Plasma</td>
<td>110</td>
<td>104% - 112%</td>
</tr>
<tr>
<td>Cit plasma</td>
<td>115</td>
<td>107% - 123%</td>
</tr>
</tbody>
</table>

**Assay time** 1h 30m  
**Assay duration** One step assay  
**Species reactivity** Reacts with: Human
Predicted to work with: Sheep, Horse

Product overview

Human GLP1 (7-36) ELISA kit (ab184857) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of GLP-1(7-36) active peptide protein in human serum, plasma and culture supernatants. It uses our proprietary SimpleStep ELISA® technology. Quantitate human GLP1 with 25 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) is available to use as an alternative to the 96-well microplate provided with SimpeStep ELISA® kits.

ASSAY SPECIFICITY

GLP-1(9-36) recombinant protein was diluted at 10ng/mL and assayed for cross reactivity. Signal was found at 7% from GLP-1 (7-36) protein assayed at the same concentration.

SPECIES REACTIVITY

This kit recognizes both native and recombinant human GLP-1 protein in the serum and plasma samples.

Due to sequence similarity, this kit is predicted to cross react with multiples species such as mouse, rat, bovine, sheep, rabbit, pig and horse.

Notes

GLP-1 (Glucagon like peptide 1) is part of the group of incretin hormones that are secreted by the gastrointestinal tract in response to food intake to assist glucose stimulated insulin secretion and glucagon suppression. GLP-1 is a 30 aminoacid peptide cleaved from proglucagon and released by the L-cells of the distal ileum. The intracellular precursor of GLP-1 (1-37) is cleaved to form the active peptides GLP-1 (7-37) and GLP-1 (7-36)NH2. The active peptides bind to the GLP-1 receptor (GLP-1r) expressed in the pancreatic beta cell and are quickly metabolized by the enzyme dipeptidyl peptidase IV (DPP-IV) to form the peptide GLP-1 (9-36), which has no insulin stimulating activity. Binding of active GLP-1 to the receptor, increases cAMP levels and potentiates insulin secretion via Protein Kinase A (PKA) and the cAMP-regulated nucleotide exchange factor (Epac2).

GLP-1 and its receptor are also suggested to play a role in the central nervous systems as mediators of satiety. Intracerebroventricular GLP-1 has been shown to induce c-FOS activity in the hypothalamus and the central nucleus of the amygdala, both of which are important in the regulation of appetite.
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>
<th>1 x 96 tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Human GLP1 (7-36) Capture Antibody</td>
<td>1 x 600µl</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Human GLP1 (7-36) Detector Antibody</td>
<td>1 x 600µl</td>
<td>1 x 600µl</td>
</tr>
<tr>
<td>10X Wash Buffer PT (ab206977)</td>
<td>1 x 20ml</td>
<td>1 x 20ml</td>
</tr>
<tr>
<td>Antibody Diluent CPI2</td>
<td>1 x 6ml</td>
<td>1 x 6ml</td>
</tr>
<tr>
<td>Human GLP1 Lyophilized Recombinant Protein</td>
<td>2 vials</td>
<td>2 vials</td>
</tr>
<tr>
<td>Plate Seals</td>
<td>1 unit</td>
<td>1 unit</td>
</tr>
<tr>
<td>Sample Diluent NS (ab193972)</td>
<td>1 x 50ml</td>
<td>1 x 50ml</td>
</tr>
<tr>
<td>SimpleStep Pre-Coated 96-Well Microplate (ab206978)</td>
<td>1 unit</td>
<td>1 unit</td>
</tr>
<tr>
<td>Stop Solution</td>
<td>1 x 12ml</td>
<td>1 x 12ml</td>
</tr>
<tr>
<td>TMB Development Solution</td>
<td>1 x 12ml</td>
<td>1 x 12ml</td>
</tr>
</tbody>
</table>

Relevance
Glucagon plays a key role in glucose metabolism and homeostasis. Regulates blood glucose by increasing gluconeogenesis and decreasing glycolysis. A counterregulatory hormone of insulin, raises plasma glucose levels in response to insulin-induced hypoglycemia. Plays an important role in initiating and maintaining hyperglycemic conditions in diabetes.

Cellular localization
Secreted.

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.

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

Example of GLP-1 standard curve. The GLP-1 standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.
Ten individual healthy donors were evaluated for the presence of GLP-1 in serum using this assay. Serum of each donor was diluted 1:10 using sample diluent NS. The mean levels of GLP-1, after adjusting for dilution factor, were found at 433.5 pg/mL with a standard deviation of 277 pg/mL.

Recombinant GLP-1 (7-36) was spiked into the following biological samples and diluted in a 2-fold dilution series in Sample Diluent NS.

Linearity of dilution is determined based on interpolated values from the standard curve. Linearity of dilution defines a sample concentration interval in which interpolated target concentrations are directly proportional to sample dilution.
To learn more about the advantages of recombinant antibodies see here.

To learn more about the advantages of SimpleStep ELISA® kits see here.

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