Hepcidin 25 ELISA

The gold standard in Hepcidin measurement

Benefits

- Easy and straightforward assay procedure (no extraction or centrifugation)
- Total assay time < 2 hours
- All reagents ready to use
- Two controls included in the kit
- High sensitivity
- Good correlation to SELDI-TOF-MS

Metabolic relevance

Hepcidin deficiency can result in hereditary hemochromatosis (body iron overload) which can progress to liver fibrosis and cirrhosis.

In contrast, defects in the Matrilase-2 gene reduce Hepcidin synthesis resulting in extremely low transferrin saturation and low to normal ferritin concentrations. Furthermore, infections and inflammation lead to increased Hepcidin concentrations, causing iron deficiency that ultimately prevents growth of extracellular growing microorganisms.

Assay Parameters

- Assay Principle: Competitive ELISA
- Dynamic Range: 0.354 - 80 ng/mL of Hepcidin
- Total Assay Time: approx. 2 hours (60/30/20 min.)
- Sample Volume: 20 µL of Serum or Plasma (EDTA, Citrate, Heparin)

Ordering information

<table>
<thead>
<tr>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepcidin 25 ELISA</td>
<td>96 Wells</td>
</tr>
</tbody>
</table>

Intended use

The Hepcidin 25 ELISA is an enzyme immunoassay for the quantitative research use only, measurement of Hepcidin in serum and plasma. Not for use in diagnostic procedures.

Background

Hepcidin is a 25-amino acid, cysteine-rich peptide hormone, produced by the liver. Hepcidin controls plasma iron levels by acting on the Fe-transporter ferroportin. This reduces the absorption of iron from the intestine and the release of iron in the macrophage and hepatocyte. Hepcidin is secreted in response to iron overload and inflammation, while its concentration decreases during iron depletion.
Hepcidin 25 ELISA

Principle of the test

The Hepcidin ELISA Kit is a solid phase enzyme-linked immunosorbent assay (ELISA), based on the principle of competitive binding. The microtiter wells are coated with a polyclonal antibody directed towards an antigenic site of the Hepcidin molecule. Endogenous Hepcidin of a patient sample competes with a biotinylated Hepcidin conjugate for binding to the coated antibody. After incubation, the unbound conjugate is washed off. Bound biotinylated Hepcidin is detected by streptavidin-horseradish peroxidase complex. After addition of the substrate solution, the intensity of colour developed is inversely proportional to the concentration of Hepcidin in the patient sample.

Example of a typical standard curve

<table>
<thead>
<tr>
<th>Standard</th>
<th>Optical Units (450 nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 0 (0 ng/mL)</td>
<td>2.13</td>
</tr>
<tr>
<td>Standard 1 (2 ng/mL)</td>
<td>1.84</td>
</tr>
<tr>
<td>Standard 2 (4.5 ng/mL)</td>
<td>1.42</td>
</tr>
<tr>
<td>Standard 3 (25 ng/mL)</td>
<td>0.65</td>
</tr>
<tr>
<td>Standard 4 (45 ng/mL)</td>
<td>0.41</td>
</tr>
<tr>
<td>Standard 5 (80 ng/mL)</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Reproducibility

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean (ng/mL)</th>
<th>CV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>44.4</td>
<td>3.3</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>63.3</td>
<td>9.9</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>10.1</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Inter-Assay

The between assay variability is shown below:

<table>
<thead>
<tr>
<th>Sample</th>
<th>n</th>
<th>Mean (ng/mL)</th>
<th>CV (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40</td>
<td>4.9</td>
<td>11.5</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>23.9</td>
<td>12.0</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>63.1</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Linearity

<table>
<thead>
<tr>
<th>Concentration (ng/mL)</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Recovery</td>
<td>99.1</td>
<td>96.3</td>
<td>96.8</td>
</tr>
<tr>
<td>Range of Recovery (%)</td>
<td>from 93.3 to 111.1</td>
<td>93.3</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Recovery

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Recovery</td>
<td>103.2</td>
<td>98.9</td>
<td>100.6</td>
</tr>
<tr>
<td>Range of Recovery (%)</td>
<td>from 101.6 to 104.8</td>
<td>93.2</td>
<td>95.5</td>
</tr>
</tbody>
</table>
# DRG ELISAS

## Oncology
- CYFRA 21-1
- CA 72-4
- CA 15-3
- CA 125
- CA 19-9
- CEA
- TPS
- TPA
- PSA
- free PSA
- NSE
- Chromogranin

## Gyn. Endocrinology
- Estradiol
- Progesterone
- 17a-OH Progesterone
- DHEA-S
- Testosterone
- DHEA
- Estrone
- Androstendione
- DHT
- SHBG
- DHEA
- LH, FSH, PRL

## Prenatal Supervision
- PAPP-A
- Free β HCG
- AFP
- Free Estriol
- HCG
- HPL
- PLGF

## Saliva Diagnostics
- Cortisol
- Estradiol
- Testosterone
- DHEA
- Progesterone
- 17a-OH Progesterone

## Bone Metabolism
- 25-OH Vitamin D Total

## Diabetes/Obesity
- Insulin
- C-Peptid
- Proinsulin
- Leptin

## Iron Metabolism
- Hepcidin
- Pro-Hepcidin

## Hypertension
- Renin
- Aldosterone

---

## ELISAS that perform

DRG develops and manufactures ELISAS for use in clinical and research laboratories. The experience of our production and management team guarantees to provide high quality products, competitive prices and excellent customer service.


## DRG Diagnostics

DRG Instruments GmbH, founded in 1973 by Dr. Geacintov, subsidiary of DRG Intl. Inc., USA, is a diagnostics manufacturer of ELISAS. The DRG Group operates through a network of DRG subsidiaries in Germany, Poland, Russia and the Czech Republic and through distributors worldwide.

---

## DRG Subsidiaries

### Czech Republic
- DRG spol. s.r.o., Brno

### China
- DRG Intl. China, Beijing

### Poland
- DRG MedTek South Poland, Gliwice
- DRG MedTek Sp. zo.o., Warszawa

### Russia
- DRG TechSystems, Moscow
- DRG Biomed 0.0.0., St. Petersburg

---

## Distributed by

DRG International Inc. USA
1167 U.S. Highway 22 East
Mountainside, N.J. 07092 USA
Phone: +1 (908) 233-2079
Fax +1 (908) 233-0758
Internet: www.drg-international.com
E-mail: corp@drg-international.com

---

DRG Instruments GmbH, Germany
Frauenbergstraße 18
D-35039 Marburg
Tel. +49 (0) 64 21/17 00 0,
Fax +49 (0) 64 21/17 00 50
Internet: www.drg-diagnostics.de
E-mail: drg@drg-diagnostics.de