abcam

Product datasheet

Human Growth Hormone ELISA Kit ab190811

重组 SimpleStep ELISA

6 References 12 图像

概述

产品名称 人Growth Hormone ELISA试剂盒

检测方法 Colorimetric

精确度

批次内

样品	n	Mean	SD	CV%
serum	8			3.6%

批次间

样品	n	Mean	SD	CV%
serum	3			2.4%

样品类型 Cell culture supernatant, Milk, Urine, Serum, Hep Plasma, EDTA Plasma, Cit plasma

检测类型 Sandwich (quantitative)

灵敏度 1.6 pg/ml

范围 9.4 pg/ml - 600 pg/ml

回收率

特定样本回收率

样品类型	平均%	范围
Milk	94	91% - 100%
Urine	112	107% - 119%
Serum	103	97% - 109%
Cell culture media	93	90% - 98%
Hep Plasma	97	94% - 99%
EDTA Plasma	93	87% - 98%

样品类型	平均%	范围
Cit plasma	97	92% - 102%

检测时间 1h 30m

实验步骤 One step assay

种属反应性 **与反应:** Human
不与反应: Mouse, Rat, Cow

产品概述 Human Growth Hormone ELISA Kit (ab190811) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Growth Hormone protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, milk, serum, and urine. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Growth Hormone with 1.6 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 SimpleStep ELISA® kits.

ASSAY SPECIFICITY

This kit recognizes both native and recombinant human Growth Hormone protein in serum, plasma, milk, urine, and cell culture supernatant samples only.

Saliva, and cell and tissue extract samples have not been tested with this kit.

SPECIES REACTIVITY

This kit recognizes human Growth Hormone protein.

Other species reactivity was determined by measuring neat serum samples of various species, interpolating the protein concentrations from the human standard curve, and expressing the interpolated concentrations as a percentage of the protein concentration in human serum assayed at the same dilution.

Reactivity < 3% was determined for the following species:

Mouse

Rat

Cow

CALIBRATION

This immunoassay is calibrated against a highly purified human Growth Hormone. The NIBSC/WHO unclassified purified human Growth Hormone preparation 80/505 was evaluated in this kit.

The dose response curve of the unclassified standard Growth Hormone parallels the SimpleStep standard curve. To convert sample values obtained with the SimpleStep Human Growth Hormone kit to approximate NIBSC 80/505 units, use the equation below.

NIBSC (80/505) approximate value (mIU/mL) = $2.3x10^{-6}$ x SimpleStep Human Growth Hormone value (pg/mL).

说明

Growth Hormone (also known as GH, GH1, Somatotropin and Pituitary growth hormone) is a circulations hormone that plays an important role in somatic growth control. Growth Hormone binds to the Growth Hormone Receptor present in a variety of tissues and induces signaling cascades. Growth Hormone secretion is controlled positively and negatively by other hormones, including Ghrelin and Somatostatin. Overproduction of Growth Hormone can result in gigantism whereas deficiency can contribute to dwarfism.

平台

Pre-coated microplate (12 x 8 well strips)

性能

存放说明

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

组件	1 x 96 tests	10 x 96 tests
10X Human Growth Hormone Capture Antibody	1 x 600µl	1 x 6000µl
10X Human Growth Hormone Detector Antibody	1 x 600µl	1 x 6000µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml
Antibody Diluent 4BI	1 x 6ml	10 x 6ml
Human Growth Hormone Lyophilized Recombinant Protein (ab116162)	2 vials	2 x 10 vials
Plate Seals	1 unit	1 x 10 units
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 x 10 units
Stop Solution	1 x 12ml	1 x 120ml

组件	1 x 96 tests	10 x 96 tests
TMB Development Solution	1 x 12ml	1 x 120ml

功能

Plays an important role in growth control. Its major role in stimulating body growth is to stimulate the liver and other tissues to secrete IGF-1. It stimulates both the differentiation and proliferation of myoblasts. It also stimulates amino acid uptake and protein synthesis in muscle and other tissues.

疾病相关

Defects in GH1 are a cause of growth hormone deficiency isolated type 1A (IGHD1A) [MIM:262400]; also known as pituitary dwarfism I. IGHD1A is an autosomal recessive deficiency of GH which causes short stature. IGHD1A patients have an absence of GH with severe dwarfism and often develop anti-GH antibodies when given exogenous GH.
Defects in GH1 are a cause of growth hormone deficiency isolated type 1B (IGHD1B) [MIM:612781]; also known as dwarfism of Sindh. IGHD1B is an autosomal recessive deficiency of GH which causes short stature. IGHD1B patients have low but detectable levels of GH. Dwarfism is less severe than in IGHD1A and patients usually respond well to exogenous GH.
Defects in GH1 are the cause of Kowarski syndrome (KWKS) [MIM:262650]; also known as pituitary dwarfism VI.
Defects in GH1 are a cause of growth hormone deficiency isolated type 2 (IGHD2) [MIM:173100]. IGHD2 is an autosomal dominant deficiency of GH which causes short stature. Clinical severity is variable. Patients have a positive response and immunologic tolerance to growth hormone therapy.

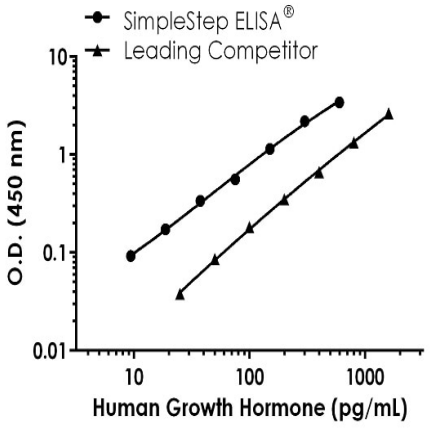
序列相似性

Belongs to the somatotropin/prolactin family.

细胞定位

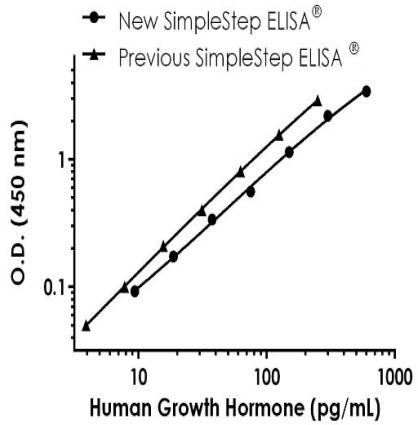
Secreted.

图片



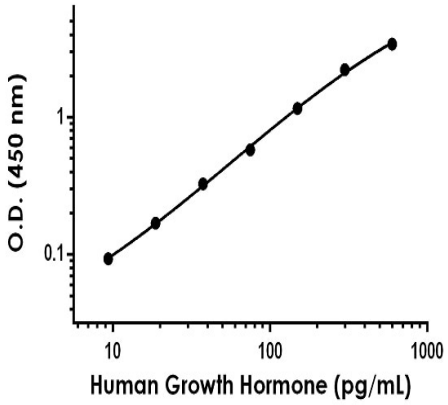
Human Growth Hormone Standard Curve Comparison

Standard Curve comparison between human Growth Hormone SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.



Human Growth Hormone Standard Curve Comparison

Standard Curve comparison between human Growth Hormone new SimpleStep ELISA kit and previous ELISA kit. The new SimpleStep ELISA kit shows increased sensitivity.



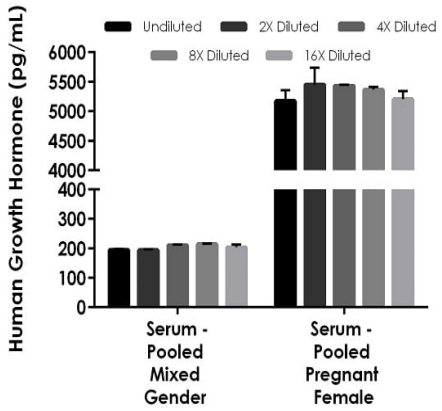
. Example of human Growth Hormone standard curve in Sample Diluent NS.

The Growth Hormone standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Standard Curve Measurements			
Concentration (pg/mL)	O.D 450 nm		Mean O.D
	1	2	
0	0.126	0.117	0.122
9.4	0.214	0.216	0.215
18.8	0.295	0.288	0.292
37.5	0.460	0.440	0.450
75	0.682	0.723	0.702
150	1.265	1.298	1.281
300	2.321	2.376	2.349
600	3.541	3.554	3.548

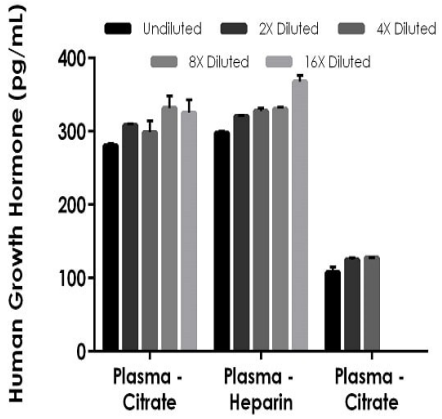
Standard curve

Example of human Growth Hormone standard curve in Sample Diluent NS. The Growth Hormone standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



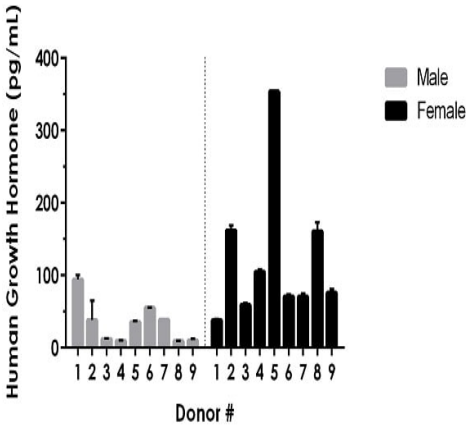
Interpolated concentrations of native Growth Hormone in human normal mixed gender serum and pregnant serum samples.

The concentrations of Growth Hormone were measured in duplicates, interpolated from the Growth Hormone standard curves and corrected for sample dilution. Undiluted samples are as follows: mixed gender serum 100% and pregnant serum 10%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Growth Hormone concentration was determined to be 203.3 pg/mL in neat pooled mixed gender serum and 5,327 pg/mL in neat pooled pregnant female serum.



Interpolated concentrations of native Growth Hormone in human plasma samples.

The concentrations of Growth Hormone were measured in duplicates, interpolated from the Growth Hormone standard curves and corrected for sample dilution. Undiluted samples are as follows: plasma (citrate) 50%, plasma (heparin) 50%, and plasma (EDTA) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Growth Hormone concentration was determined to be 309.0 pg/mL in neat plasma (citrate), 329.1 pg/mL in neat plasma (heparin), and 120 pg/mL in and neat plasma (EDTA).



Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Serum from nine individual healthy human male and female donors was measured in duplicate.

Dilution Factor	Interpolated value	100% Human Serum	50% Human Plasma (Citrate)	50% Human Plasma (Heparin)	50% Human Plasma (EDTA)	10% Pregnant Human Serum
Undiluted	pg/mL	194.2	140.4	149.0	53.93	517.5
	% Expected value	100	100	100	100	100
2	pg/mL	97.06	77.09	80.24	31.25	272.6
	% Expected value	100	110	108	116	105
4	pg/mL	52.55	37.34	40.99	15.96	135.8
	% Expected value	108	106	110	118	105
8	pg/mL	26.83	20.74	20.67	ND	67.08
	% Expected value	111	118	111	ND	104
16	pg/mL	12.72	10.17	11.49	ND	32.54
	% Expected value	105	116	123	ND	101

ND – Not Detectable

Linearity of dilution.

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.

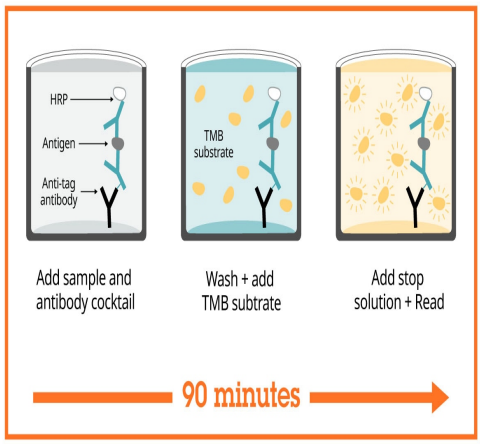
Native Growth Hormone was measured in the following biological samples in a 2-fold dilution series. Sample dilutions are made in Sample Diluent NS.

Dilution Factor	Interpolated value	100% Human Urine	100% Human Milk De-fatted	50% Cell Culture Media*
Undiluted	pg/mL	518.3	390.8	484.6
	% Expected value	100	100	100
2	pg/mL	212.2	161.6	243.2
	% Expected value	82	83	100
4	pg/mL	108.4	83.91	118.1
	% Expected value	84	86	97
8	pg/mL	52.78	45.90	57.80
	% Expected value	81	94	95
16	pg/mL	29.15	25.79	30.21
	% Expected value	90	106	123

*Media is RPMI 1640 containing 10% fetal bovine serum.

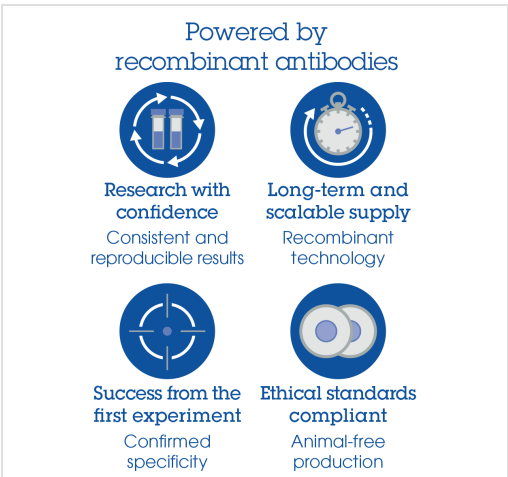
Linearity of dilution.

Recombinant Growth Hormone was spiked into the following biological samples and diluted in a 2-fold dilution series in Sample Diluent NS.



Sandwich ELISA - Human Growth Hormone ELISA Kit (ab190811)

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.



Sandwich ELISA - Human Growth Hormone ELISA Kit (ab190811)

To learn more about the advantages of recombinant antibodies see **here**.

Sandwich ELISA - Human Growth Hormone ELISA Kit (ab190811)

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

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