

Human HMW Kininogen ELISA Kit ab189574

重组 SimpleStep ELISA

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概述

产品名称 人HMW Kininogen ELISA试剂盒

检测方法 Colorimetric

批次内				
样品	n	Mean	SD	CV%
Serum	8			3.9%

批次间				
样品	n	Mean	SD	CV%
Serum	3			11.4%

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

检测类型 Sandwich (quantitative)

灵敏度 11.5 pg/ml

范围 39.1 pg/ml - 2500 pg/ml

特定样本回收率		
样品类型	平均%	范围
Cell culture supernatant	107	99% - 111%
Saliva	117	114% - 120%
Urine	118	115% - 120%
Serum	89	88% - 90%
Hep Plasma	90	84% - 93%
EDTA Plasma	90	87% - 92%

样品类型	平均%	范围
Cit plasma	88	82% - 91%

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: Cow

产品概述

Human HMW Kininogen ELISA Kit (ab189574) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of HMW Kininogen protein in cit plasma, edta plasma, hep plasma, serum, saliva, urine, and cell culture supernatant. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human HMW Kininogen with 11.5 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.

说明

High molecular weight kininogen (HMWK) is a 72kDa highly glycosylated protein with an important role in the assembly of the plasma kallikrein-kinin system and in the blood coagulation process. It is encoded by the KNG1 gene, which generates both HMWK and low molecular weight kininogen (LMWK) via alternative splicing. Both HMWK and LMWK share a heavy chain consisting of protein domains 1, 2 and 3 and differ in their light chain. HMWK contains a 56kDa light chain consisting of domain 5 and 6H, whereas LMWK contains a 4kDa light chain consisting of domain 5L. Heavy and light chains of HMWK and LMWK are linked via domain 4 which contains the bradykinin nonapeptide.

HMWK is mainly secreted by the liver and helps position optimally prekallikrein and factor XI next to factor XII. Positioning of prekallikrein in contact with factor XII results in activation and cleavage of factor XII into factor XIIa. This leads to a positive feedback mechanisms of contact activation and cleavage of HMWK with the release of bradykinin. Active bradykinin affects smooth muscle contraction, induces hypotension, natriuresis, diuresis, decreases blood glucose level, mediates inflammation by releasing prostaglandins, increases vascular permeability and stimulates nociceptors. Furthermore, HMWK also inhibits the thrombin- and plasmin-induced aggregation of thrombocytes.

HMWK deficiency is an autosomal recessive coagulation defect known as Fitzgerald trait, Flaujeac trait, Fujiwara trait, Reid trait or Williams's trait. Patients with low levels of HMWK exhibit abnormal surface-mediated activation of fibrinolysis noted by prolonged partial thromboplastin time (PTT), normal prothrombin time (PT) and normal thrombin time typically found during a preoperative screening workup in asymptomatic individuals. A SNPs in KNG1 gene (rs710446)

has been significantly associated with shortened activated partial thromboplastin time (aPTT) increasing the risk of venous thrombosis.

平台 Microplate

性能

存放说明 Store at +4°C. Please refer to protocols.

组件	1 x 96 tests
10X Human HMW Kininogen Capture Antibody	1 x 600µl
10X Human HMW Kininogen Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BR	1 x 6ml
Human HMW Kininogen Lyophilized Purified Protein (ab90353)	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

功能 (1) Kininogens are inhibitors of thiol proteases; (2) HMW-kininogen plays an important role in blood coagulation by helping to position optimally prekallikrein and factor XI next to factor XII; (3) HMW-kininogen inhibits the thrombin- and plasmin-induced aggregation of thrombocytes; (4) the active peptide bradykinin that is released from HMW-kininogen shows a variety of physiological effects: (4A) influence in smooth muscle contraction, (4B) induction of hypotension, (4C) natriuresis and diuresis, (4D) decrease in blood glucose level, (4E) it is a mediator of inflammation and causes (4E1) increase in vascular permeability, (4E2) stimulation of nociceptors (4E3) release of other mediators of inflammation (e.g. prostaglandins), (4F) it has a cardioprotective effect (directly via bradykinin action, indirectly via endothelium-derived relaxing factor action); (5) LMW-kininogen inhibits the aggregation of thrombocytes; (6) LMW-kininogen is in contrast to HMW-kininogen not involved in blood clotting.

组织特异性 Secreted in plasma. T-kinin is detected in malignant ovarian, colon and breast carcinomas, but not in benign tumors.

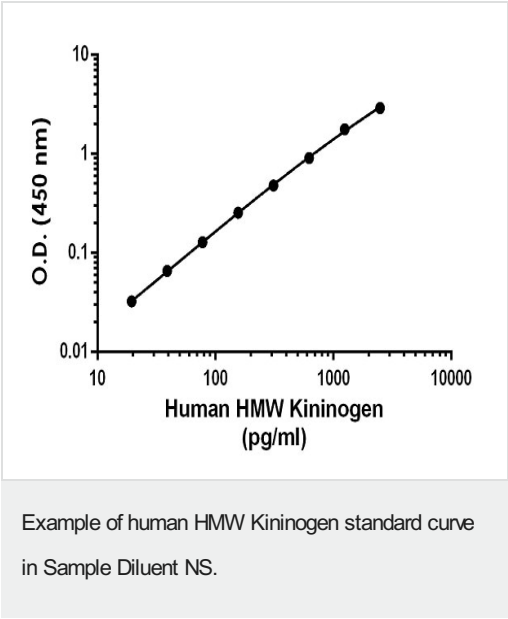
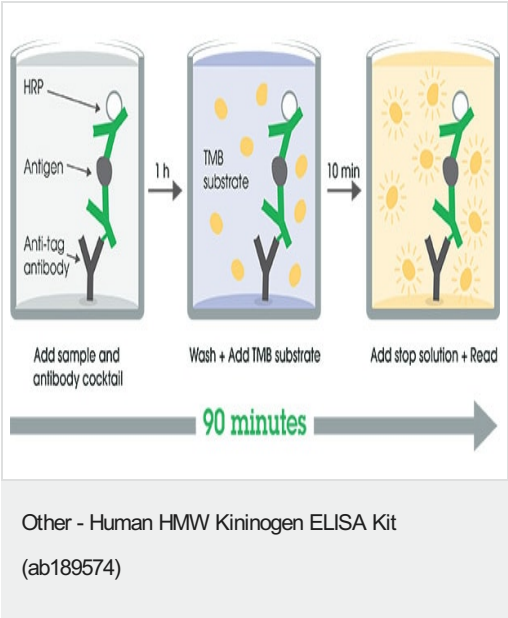
疾病相关 Defects in KNG1 are the cause of high molecular weight kininogen deficiency (HMK deficiency) [MIM:228960]. HMK deficiency is an autosomal recessive coagulation defect. Patients with HMK deficiency do not have a hemorrhagic tendency, but they exhibit abnormal surface-mediated activation of fibrinolysis.

序列相似性 Contains 3 cystatin domains.

翻译后修饰 Bradykinin is released from kininogen by plasma kallikrein.
Hydroxylation of Pro-383 occurs prior to the release of bradykinin.

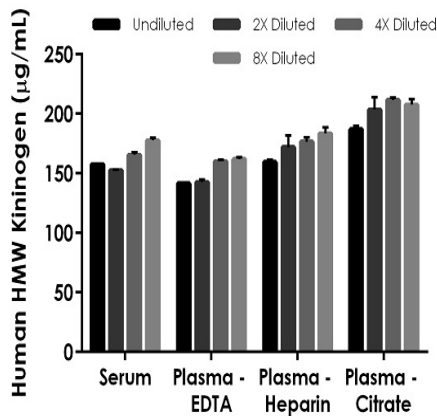
	Phosphorylation sites are present in the extracellular medium. N- and O-glycosylated. O-glycosylated with core 1 or possibly core 8 glycans.
细胞定位	Secreted > extracellular space.

图片



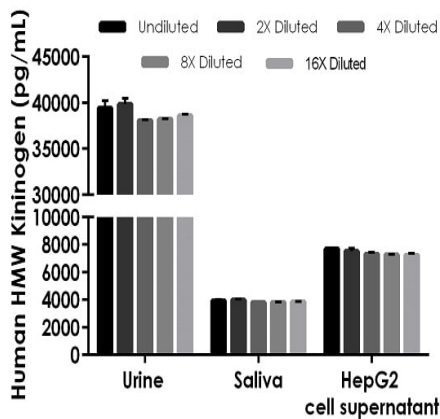
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

The HMW Kininogen 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.



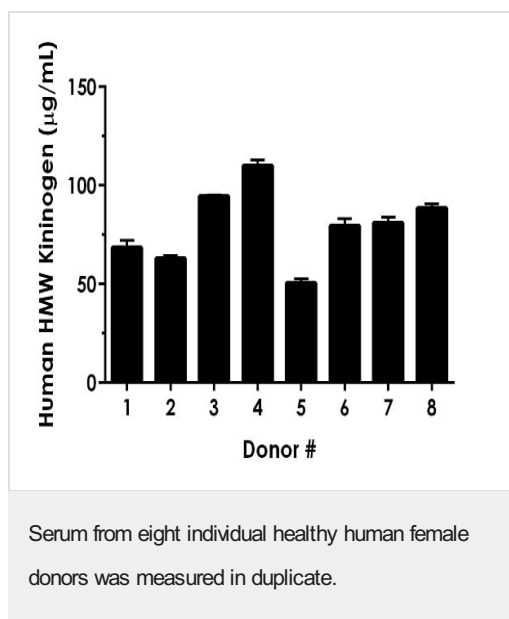
Interpolated concentrations of native HMW Kininogen in human serum and plasma samples.

The concentrations of HMW Kininogen were measured in duplicates, interpolated from the HMW Kininogen standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:80,000, plasma (citrate) 1:320,000, plasma (heparin) 1:320,000 and plasma (EDTA) 1:80,000. The interpolated dilution factor corrected values are plotted (mean \pm SD, n=2). The mean HMW Kininogen concentration was determined to be 163 μ g/mL in serum, 202 μ g/mL in plasma (citrate), 151 μ g/mL in plasma (EDTA), and 173 μ g/mL in plasma (heparin).



Interpolated concentrations of native HMW Kininogen in human urine, saliva, and HepG2 cell supernatant samples.

The concentrations of HMW Kininogen were measured in duplicates, interpolated from the HMW Kininogen standard curves and corrected for sample dilution. Undiluted samples are as follows: urine 5%, saliva 50%, and HepG2 cell supernatant 25%. The interpolated dilution factor corrected values are plotted (mean \pm SD, n=2). The mean HMW Kininogen concentration was determined to be 38,903 pg/mL in urine, 2,857 pg/mL in saliva, and 7,454 pg/mL in HepG2 cell supernatant.



Interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean HMW Kininogen concentration was determined to be 79 $\mu\text{g/mL}$ with a range of 62-112 $\mu\text{g/mL}$.

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Sandwich ELISA - Human HMW Kininogen ELISA Kit (ab189574)

To learn more about the advantages of recombinant antibodies see [here](#).

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