abcam

Product datasheet

C-Peptide ELISA Kit ab178641

3 References 1 Image

Overview

Product name C-Peptide ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
C-peptide	16			<=6.2%

Inter-assay

Sample	n	Mean	SD	CV%
C-peptide	20			<=10%

Sample type Serum, Hep Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 0.01 ng/ml

Range 0.7 ng/ml - 1.9 ng/ml

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Human

Product overview C-peptide ELISA kit (ab178641) is designed for the accurate quantitative measurement of C-peptide in Human serum and plasma.

A 96-well plate has been precoated with Streptavidin. Samples, standards and the C-peptide HRP and Biotin conjugate are added to the wells. Biotinylated monoclonal and horseradish peroxidase (HRP) labelled antibodies are added and the reactants are mixed. The different types of antibodies used have high affinity and specificity and are directed against distinct and different epitopes of C-Peptide. Reaction between the various C-Peptide antibodies and native C-Peptide occurs in the microwells without competition or steric hindrance forming a soluble sandwich complex. After incubation, the wells are washed to remove unbound material and TMB substrate is then added which is catalyzed by HRP to produce blue coloration. The reaction is terminated by addition of Stop Solution which stops the color development and produces a color change from blue to yellow. The intensity of signal is directly proportional to the amount of C-peptide in the sample and the intensity is measured at 450 nm.

Notes C-peptide is the abbreviation for connecting peptide; it is a 31-amminoacid peptide. C-peptide of insulin is the C-terminal cleavage product produced during processing of the insulin pro-hormone to the mature insulin molecule. Proinsulin is cleaved when it is released from the pancreas into the blood - one C-peptide for each insulin molecule. C-Peptide is devoid of any biological activity but appears to be necessary to maintain the structural integrity of Insulin.

Platform Microplate

Properties

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

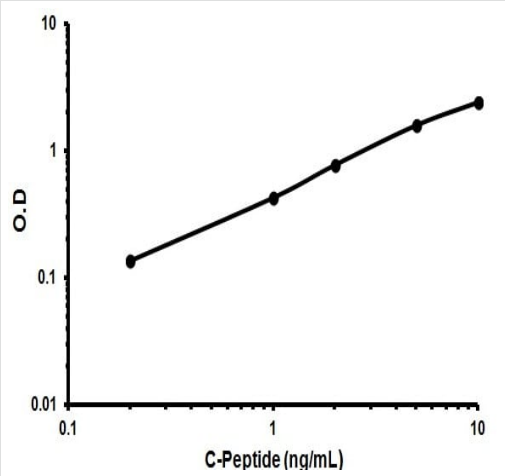
Components	1 x 96 tests
50X Washing Solution	1 x 20ml
Cover Foil	1 unit
C-Peptide HRP and Biotin Conjugate	1 x 13ml
C-Peptide Standard 0 - 0 ng/mL (Lyophilized)	1 vial
C-Peptide Standard 1 - 0.2 ng/mL (Lyophilized)	1 vial
C-Peptide Standard 2 - 1.0 ng/mL (Lyophilized)	1 vial
C-Peptide Standard 3 - 2.0 ng/mL (Lyophilized)	1 vial
C-Peptide Standard 4 - 5.0 ng/mL (Lyophilized)	1 vial
C-Peptide Standard 5 - 10.0 ng/mL (Lyophilized)	1 vial
Stop Solution	1 x 15ml
Streptavidin Coated Microplate (12 x 8 wells)	1 unit
Strip holder	1 unit
TMB Substrate Solution	1 x 15ml

Function Insulin decreases blood glucose concentration. It increases cell permeability to monosaccharides, amino acids and fatty acids. It accelerates glycolysis, the pentose phosphate cycle, and glycogen synthesis in liver.

Involvement in disease Defects in INS are the cause of familial hyperproinsulinemia (FHPRI) [MIM:176730].
Defects in INS are a cause of diabetes mellitus insulin-dependent type 2 (IDDM2) [MIM:125852]. IDDM2 is a multifactorial disorder of glucose homeostasis that is characterized by susceptibility to ketoacidosis in the absence of insulin therapy. Clinical fetaures are polydipsia, polyphagia and polyuria which result from hyperglycemia-induced osmotic diuresis and secondary thirst. These derangements result in long-term complications that affect the eyes, kidneys, nerves, and blood vessels.
Defects in INS are a cause of diabetes mellitus permanent neonatal (PNDM) [MIM:606176]. PNDM is a rare form of diabetes distinct from childhood-onset autoimmune diabetes mellitus type

	1. It is characterized by insulin-requiring hyperglycemia that is diagnosed within the first months of life. Permanent neonatal diabetes requires lifelong therapy. Defects in INS are a cause of maturity-onset diabetes of the young type 10 (MODY10) [MIM:613370]. MODY10 is a form of diabetes that is characterized by an autosomal dominant mode of inheritance, onset in childhood or early adulthood (usually before 25 years of age), a primary defect in insulin secretion and frequent insulin-independence at the beginning of the disease.
Sequence similarities	Belongs to the insulin family.
Cellular localization	Secreted.

Images



Typical Standard Curve

Representative standard curve using ab178641.

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