Datasheet for ABIN2648559

C-Peptide ELISA Kit

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Overview

Quantity:	96 tests
Target:	C-Peptide
Reactivity:	Human
Application:	ELISA

Product Details

Sample Type:	Serum, Plasma
Detection Method:	Colorimetric
Sensitivity:	0.01 ng/ml
Characteristics:	C-peptide is a small 31-amino acid peptide usually produced in the beta cell of pancreas as a byproduct of the cleavage of proinsulin in the synthesis of insulin. Proinsulin consists of A and B chain and connecting peptide in the middle, called C-peptide. It is generally found in equimolar amounts equal to insulin in circulation. Since the half-life of C-peptide is 3-4 times that of insulin, it serves as a useful measure of insulin production in the beta cells of the pancreas. Testing for C-peptide levels can help find the cause of low blood sugar (hypoglycemia) aid in distinguishing type 1 from type 2 diabetes. A person with diabetes may have a normal level of C-peptide which indicates the body is making plenty of insulin but the body is just not responding properly to it. This is the hallmark of type 2 diabetes (adult insulin-resistant diabetes). For subjects with type 1 diabetes treated with insulin, measuring C-peptide level is useful in evaluating beta cell function related to synthesis and release endogenous insulin into the circulation. Some studies have suggested that C-peptide may have chemotactic effects on the inflammatory cells and might have a role in increased risk of atherosclerosis in persons with type-2 diabetes. Assay Principle

Target Details

Target:	C-Peptide
Abstract:	C-Peptide Products

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Sample Volume:	50 µL
Assay Time:	1.5 h
Protocol:	Human C-Peptide ELISA Assay Kit is designed, developed and produced for the quantitative measurement of human C-peptide in serum and/or EDTA-plasma samples. The C-Peptide ELISA Assay Kit utilizes the "sandwich" technique with selected antibodies that bind to various epitopes of C-peptide. Assay standards, controls and samples are added directly to wells of a microplate that is coated with an anti-human C-peptide specific antibody. Simultaneously, a horseradish peroxidase-conjugated monoclonal C-peptide specific antibody is added to each well. After the first incubation period, the antibody on the wall of the microtiter well captures human C-peptide in the sample. A "sandwich" of "anti-C-peptide antibody --- human C-peptide --- HRP conjugated tracer antibody" is formed. The unbound tracer antibodies and other matrix protein from the test sample are removed in the subsequent washing step. For the detection of this immunocomplex, the well is then incubated with a substrate solution in a timed reaction and then measured in a spectrophotometric microplate reader. The enzymatic activity of the immunocomplex bound to human C-peptide on the wall of the microtiter well is directly proportional to the amount of C-peptide in the sample. A standard curve is generated by plotting the absorbance versus the respective human C-peptide concentration for each standard on point-to-point or 4 parameter curve fit. The concentration of human C-peptide in test samples is determined directly from this standard curve. Add 25 µL of Standards, Controls and samples into the designated microwells. Add 100 µL of the above diluted Tracer Antibody working solution to each well. Seal the plate wells securely, cover with foil or similar material to protect from light. Incubate the plate shaking, 450-450 rpm on an ELISA plate shaker at room temperature for 1 hr. ± 5 minutes. Wash each well 5 times by dispensing 350 µL of working wash solution into each well, and then completely aspirating the contents. Alternatively, an automated microplate washer can be used. Add 100 µL of ELISA HRP Substrate into each of the wells. Cover the plate with aluminum foil or similar material to avoid exposure to light. Incubate the plate static, at room temperature for 20 minutes. Immediately add 100 µL of ELISA Stop Solution into each of the wells. Mix gently. Read the absorbance at 450 nm with reference filter at 620 nm or 650 nm.

Application Details

Restrictions:	For Research Use only

Handling

Storage:	4 °C

