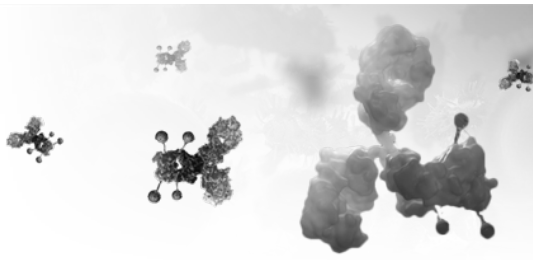

Anti-Proinsulin monoclonal antibody, clone 364726 [Biotin] (DCABY-4335)

This product is for research use only and is not intended for diagnostic use.

PRODUCT INFORMATION

Antigen Description	Proinsulin is synthesized as a single chain, 110 amino acid (aa) preproprecursor that contains a 24 aa signal sequence and an 86 aa proinsulin. Following removal of the signal peptide, the proinsulin peptide undergoes further proteolysis to generate mature insulin, a 51 aa disulfide-linked dimer that consists of a 30 aa B chain (aa 25 - 54) bound to a 21 aa A chain (aa 90 - 110). The 34 aa intervening peptide (aa 55 - 89) that connects the B and A chains is termed the C-peptide. Human proinsulin shares 84% and 80% aa sequence identity with rat and bovine proinsulin, respectively. Most of the sequence variation between species occurs in the region of the C-peptide. This peptide generates a structural conformation that allows for the correct formation of the intrachain disulphide bonds.Insulin is a molecule that facilitates the cellular uptake of glucose. This is accomplished by regulating the appearance of membrane glucose transporters. Low insulin levels or lack of insulin are associated with type 2 and type 1 diabetes mellitus, respectively. These conditions are associated with an increased risk for microvascular complications such as retinopathy, nephropathy, and peripheral neuropathy.Proinsulin also circulates, but its physiological role is less well understood. It has approximately 25% of the activity of mature insulin, but it would seem unlikely to be a natural substitute for insulin. In type 2 diabetes, an elevated proinsulin-to-insulin ratio in the circulation is a well-known abnormality. This abnormality may represent either compromised proteolytic processing or a general inability to process increased levels of insulin precursor. Proinsulin will stimulate amylin secretion by beta-cells, and amyloid formation in pancreatic islets that promotes decreased beta-cell function. Studies also suggest that fasting serum proinsulin may be a better predictor of future type 2 diabetes than fasting insulin levels in obese children.
Specificity	This antibody was selected for use as a detection antibody in humanProinsulin sandwich ELISAs and Western blots. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) Insulin, rhIGF-1, or rhIGF-II is observed.
Immunogen	E. coli-derived recombinant human Proinsulin. Phe25-Asn110 Accession Number P01308
Isotype	IgG2a

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Source/Host	Mouse
Species Reactivity	Human
Clone	364726
Purification	Protein A or G purified from hybridoma culture supernatant
Conjugate	Biotin
Applications	ELISA Detection (Matched Pair)
Format	Liquid
Size	250 µg
Buffer	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein.
Preservative	None
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

GENE INFORMATION

Gene Name	INS insulin [Homo sapiens (human)]
Official Symbol	INS
Synonyms	INS; insulin; ILPR; IRDN; IDDM1; IDDM2; MODY10; proinsulin; preproinsulin; insulin-dependent diabetes mellitus 2;
Entrez Gene ID	3630
Protein Refseq	NP_000198
UniProt ID	I3WAC9
Chromosome Location	11p15.5
Pathway	AGE/RAGE pathway; AMPK signaling pathway; ATF-2 transcription factor network; Adipogenesis; Aldosterone-regulated sodium reabsorption; Amyloids; Arf6 trafficking events; Cardiac Progenitor Differentiation;
Function	hormone activity; identical protein binding; insulin receptor binding; insulin-like growth factor

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