

## Human Proinsulin ELISA Kit | INS elisa kit

Human Proinsulin ELISA KIT

CATALOG #  
**AAA309872**

REACTIVITY  
**Human**

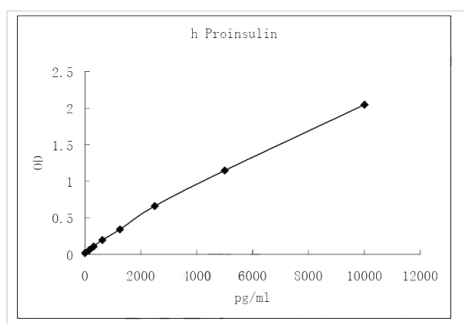
### PRODUCT SYNONYMS

Proinsulin; Human Proinsulin ELISA KIT; Human Proinsulin; INS elisa kit

### PRODUCT SPECIFICATIONS

|                         |                                                                                                                                                                                                                                                        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity              | Human                                                                                                                                                                                                                                                  |
| Specificity             | This assay recognizes both natural and recombinant human Proinsulin. The factors listed below were prepared at 200ng/ml in Standard /sample Diluent and assayed for cross-reactivity and no significant cross-reactivity or interference was observed. |
| Samples                 | Cell culture supernates, serum, and plasma                                                                                                                                                                                                             |
| Detection Range         | 156 pg/ml - 10000 pg/ml                                                                                                                                                                                                                                |
| Sensitivity             | 70pg/mL                                                                                                                                                                                                                                                |
| Assay Time              | 3 hours                                                                                                                                                                                                                                                |
| Sample Volume           | 20 uL                                                                                                                                                                                                                                                  |
| Detection Method        | Colorimetric                                                                                                                                                                                                                                           |
| Preparation and Storage | Store at 4 degree C                                                                                                                                                                                                                                    |

### IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Related Product Information for INS elisa kit | Proinsulin is synthesized as a single chain, 110 amino acid (aa) preproprecursor that contains a 24 aa signal sequence and an 86 aa proinsulin propeptide. Following removal of the signal peptide, the proinsulin peptide undergoes further proteolysis to generate mature insulin, a 51 aa disulfidelinked dimer that consists of a 30 aa B chain (aa 2554) bound to a 21 aa A chain (aa 90110). The 34 aa intervening peptide (aa 5589)that connects the B and A chains is termed the Cpeptide.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 Cpeptide (1). This peptide generates a structural conformation that allows for the correct formation of the intrachain disulphide bonds (1). 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 (3). Proinsulin also circulates, but its physiologic role is less well understood. It does possess about 25% of the activity of mature insulin, but it would seem unlikely to be a natural substitute for insulin (4). In type 2 diabetes, an elevated proinsulin to insulin ratio in the circulation is a well known abnormality (59). Perhaps this abnormality represents either compromised proteolytic processing or a general inability to process increased levels of insulin precursor (5). In any event, proinsulin will stimulate amylin secretion by bcells, and amyloid formation in pancreatic islets that promotes decreased b cell function (10). Studies also suggest that fasting serum proinsulin may be a better predictor of future type 2 diabetes than fasting insulin levels in obese children (11). |
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NCBI AND UNIPROT INFORMATION

|                                  |                                        |
|----------------------------------|----------------------------------------|
| NCBI GI #                        | 59036749                               |
| NCBI GeneID                      | 3630                                   |
| Molecular Weight                 | 21,537 Da                              |
| NCBI Official Full Name          | proinsulin                             |
| NCBI Official Synonym Full Names | insulin                                |
| NCBI Official Symbol             | INS                                    |
| NCBI Official Synonym Symbols    | IDDM; ILPR; IRDN; IDDM1; IDDM2; MODY10 |
| NCBI Protein Information         | insulin                                |
| UniProt Protein Name             | Insulin                                |
| UniProt Gene Name                | INS                                    |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/human-elisa-kits/proinsulin/309872>