

Product Specification Sheet

**Human Insulin B chain peptide Antibodies**

□ Cat. # INSB22-M      Mouse Monoclonal Anti-human Insulin B chain peptide IgG, aff pure      **SIZE:** 100 ul

Insulin is a hormone that is central to regulating energy and glucose metabolism in the body. Insulin causes cells in the liver, muscle, and fat tissue to take up glucose from the blood, storing it as glycogen in the liver and muscle. Insulin is a peptide hormone composed of 51 amino acids and has a molecular weight of 5808 Da. It is produced in the islets of Langerhans in the pancreas. The name comes from the Latin insula for "island". Insulin's structure varies slightly between species of animal. Insulin from animal sources differs somewhat in "strength" (in carbohydrate metabolism control effects) in humans because of those variations. Porcine (pig) insulin is especially close to the human version.

When control of insulin levels fails, diabetes mellitus will result. As a consequence, insulin is used medically to treat some forms of diabetes mellitus. Patients with Type 1 diabetes mellitus depend on external insulin (most commonly injected subcutaneously) for their survival because the hormone is no longer produced internally. Patients with Type 2 diabetes mellitus are insulin resistant, and because of such resistance, may suffer from a relative insulin deficiency. Some patients with Type 2 diabetes may eventually require insulin if other medications fail to control blood glucose levels adequately, though this is somewhat uncommon.

**Human pre-pro insulin 110-aa**

Signal peptide 1-24aa; B chain, 25-54 aa; Propeptide 57-87 aa (C-peptide)

A chain, 90-110 aa

Disulfide bond; 31 ↔ 96      Interchain (between B and A)  
Disulfide bond; 43 ↔ 109      Interchain (between B and A)  
Disulfide bond      95 ↔ 100

**Source of Antigen and Antibodies**

<b>Antigen</b>	Human insulin B peptide at the C-terminus
<b>Antibody host/type</b>	Mouse, monoclonal affinity purified IgG1, <b>Cat # INSB22-M</b>
<b>Secondary Ab</b>	Cat # 40320, rabbit anti-mouse IgG-HRP (AP, biotin, FITC conjugates also available) or Goat Anti-mouse IgG1-HRP (#40216)
<b>Negative Control Ab</b>	Non-immune mouse IgG1 (Cat # 20008-1) isotype control be used as -ve control for ELISA, WB, IHC etc.

**Isotype Controls**

Catalog#	ProdDescription
20102-101	Mouse IgG1 isotype control, purified
20102-101-1	Mouse IgG1 isotype control, purified
20102-101-APC	Mouse IgG1-APC conjugate (isotype control)
20102-101-B	Mouse IgG1-Biotin conjugate (isotype control)
20102-101-F	Mouse IgG1-FITC conjugate (isotype control)
20102-101-FP	Mouse IgG1-FITC-PE conjugate (isotype control)
20102-101-HP	Mouse IgG1-HRP conjugate (isotype control)
20102-101-PC5	Mouse IgG1-PE-Cy5 conjugate (isotype control)
20102-101-PE	Mouse IgG1-PE conjugate (isotype control)

**Form & Storage**

**Aff Pure (purified)**

- 100 ul/vial
- solution, PBS pH 7.5, 0.1% BSA
- lyophilized in PBS pH 7.5, 0.1% BSA

**Reconstitute powder** in 100 ul water

**Storage**

**Short-term:** unopened, undiluted vials for less than a week at 4oC.

**Long-term:** at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20oC or below.

**Shipping:** 4oC for solutions and room temp for powder.

**Recommended Usage**

**Western Blotting** (1-2 ug/ml using ECL.

**ELISA** (0.1-1 ug/ml as detecting antibody. Suitable as capture antibody.

**Histochemistry:** not tested. We recommend the use of 2-10 ug/ml of antibody in paraformaldehyde-fixed, paraffin embedded sections.

**Specificity & Cross-reactivity**

INSLB2-M reacts with human insulin B chain and proinsulin of bovine. Due to high sequence conservation of insulin B sequence in mouse, rat and many other species, the antibodies are expected to crossreact with insulin B chain. Antibody crossreactivity in various other species is not established. Purified recombinant human insulin (#INSL16-N-5) or insulin analogs, Glargine (#INSL17-N-5) or Lispro (#INS18-N-5), mouse insulin A chain (#INSA15-P), mouse insulin B chain (INSB25-P) and mouse insulin C-peptide (#INSC35-P) are available for control studies to compare antibody reactivity.

**General References:** Bell GI (1980) Nature 284, 26-32; Melloul D (2002) Diabetologia 45, 309-326; Steiner DF (1967) PNAS 57, 473-480;

\*This product is for In vitro research use only.

**Related material available from ADI**

Antibodies to insulin, proinsulin and C-peptides  
Recombinant insulin, C-peptide, and Glargine/Lispro

Human mouse, rat Insulin, C-peptide ELISA kits

INSB22-M      120912A

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