Product datasheet

Anti-Insulin antibody ab7842

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Overview

Product name  Anti-Insulin antibody
Description  Guinea pig polyclonal to Insulin
Host species  Guinea pig
Tested applications  Suitable for: IP, IHC-FoFr, ICC/IF, IHC-P, IHC-Fr, Flow Cyt
Species reactivity  Reacts with: Mouse, Rat, Human, Syrian hamster
Immunogen  Insulin (Human).
Positive control  IHC: human kidney, rat and mouse pancreas. FC: single cell suspension from isolated human fetal islets.

Properties

Form  Liquid
Storage instructions  Shipped at 4°C. Store at 4°C (stable for up to 12 months). Store at +4°C. Do Not Freeze.
Storage buffer  pH: 7.40
Preservative: 0.1% Sodium azide
Constituent: PBS
Purity  Protein A/G purified
Clonality  Polyclonal
Isotype  IgG

Applications

Our Abpromise guarantee covers the use of ab7842 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 24336520</td>
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<tr>
<td>IHC-FoFr</td>
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<td>Use at an assay dependent concentration. PubMed: 20335226</td>
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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 features 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

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<tbody>
<tr>
<td>ICC/IF</td>
<td>★★★★★</td>
<td>1/50 - 1/100.</td>
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<tr>
<td>IHC-P</td>
<td>★★★★★</td>
<td>1/50 - 1/100. Prolonged fixation in buffered formalin can destroy the epitope.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>★★★★★</td>
<td>1/50 - 1/100.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 21829502</td>
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</table>
ab7842 at 1/1000 dilution staining rat pancreas tissue sections by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). The sections were fixed with paraformaldehyde and blocked with 5% serum prior to incubation with the antibody for 12 hours. A Cy2 conjugated goat polyclonal antibody was used as the secondary. Insulin staining is shown in green. Somatostatin staining is shown in red. DAPI was used as nuclear counterstain.

Flow cytometry analysis of a single cell suspension from isolated Human fetal islets, staining Insulin with ab7842.

ab7842 staining Insulin in human kidney tissue by Immunohistochemistry (Frozen sections).

Tissue was fixed in formaldehyde, permeabilized with methanol, blocked using 3% BSA for 1 hour at 22°C then incubated with ab7842 at a 1/200 dilution for 18 hours at 4°C. The secondary used was an Aleza-Fluor 568 conjugated goat anti-guinea pig polyclonal used at a 1/500 dilution.

Image shows kidney section bearing RGD-Adv-hHGF-hXIAP-transduced human islets at 30 days after islet transplantation. (a-b) Insulin was stained in red to indicate the functional human islets of mice receiving untransduced human islets (a) and RGD-Adv-hHGF-hXIAP-transduced human islets (b).
The picture shows beta cells in the pancreas using ab7842 (primary) and Goat Anti-Guinea pig IgG H&L (Texas Red®) (ab6906) (secondary). The beta cells in the islets show up very bright red with almost no background.

This image was kindly supplied as part of the review submitted by Kristi Hultman.

ab7842 at 1/200 staining mouse pancreas tissue sections by IHC-P.

The tissue section was prepared by Bouin's fixation followed by 1N HCl antigen retrieval and blocked with 1% BSA, 5% goat serum for 4 hours at 20°C.

The primary antibody was incubated for 16 hours at 4°C.

The secondary antibody was a fluorophore labelled Goat anti-Guinea pig polyclonal diluted 1/200.

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