

Datasheet for ABIN6974596

Insulin ELISA Kit**1** Image**26** Publications[Go to Product page](#)

Overview

Quantity:	96 tests
Target:	Insulin (INS)
Reactivity:	Mouse
Method Type:	Sandwich ELISA
Detection Range:	15.6 nIU/mL - 1000 nIU/mL
Minimum Detection Limit:	15.6 nIU/mL
Application:	ELISA

Product Details

Purpose:	For the quantitative determination of mouse insulin (INS) concentrations in serum, plasma, cell culture supernates, tissue homogenates, cell lysates.
Sample Type:	Cell Culture Supernatant, Cell Lysate, Plasma, Serum, Tissue Homogenate
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	<p>This assay has high sensitivity and excellent specificity for detection of mouse INS. No significant cross-reactivity or interference between mouse INS and analogues was observed.</p> <p>Note: Limited by current skills and knowledge, it is impossible for us to complete the cross-reactivity detection between mouse INS and all the analogues, therefore, cross reaction may still exist.</p>
Sensitivity:	3.9 nIU/mL

Product Details

Components:	<ul style="list-style-type: none">• Assay plate• Standard• HRP-avidin (100 x concentrate)• Biotin-antibody (100 x concentrate)• Sample Diluent• HRP-avidin Diluent• Biotin-antibody Diluent• Wash Buffer (25 x concentrate)• TMB Substrate• Stop Solution• Adhesive Strip
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Target Details

Target:	Insulin (INS)
Alternative Name:	Insulin,INS (INS Products)
Background:	Abbreviation: INS Alias: N/A
UniProt:	P01325
Pathways:	NF-kappaB Signaling , RTK Signaling , Positive Regulation of Peptide Hormone Secretion , Peptide Hormone Metabolism , Hormone Activity , Carbohydrate Homeostasis , ER-Nucleus Signaling , Regulation of Carbohydrate Metabolic Process , Feeding Behaviour , Autophagy , Negative Regulation of intrinsic apoptotic Signaling , Brown Fat Cell Differentiation , Positive Regulation of fat Cell Differentiation

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Sample Volume:	100 µL
Assay Time:	1 - 4.5 h
Plate:	Pre-coated
Protocol:	<ol style="list-style-type: none">1. Prepare reagents, samples and standards as instructed.2. Add 100 µL standard or sample to each well. Incubate 2 hours at 37 °C.3. Remove the liquid of each well, don't wash.4. Add 100 µL Biotin-antibody (1x) to each well. Incubate 1 hour at 37 °C.5. Aspirate and wash 3 times.

6. Add 100 µL HRP-avidin (1x) to each well. Incubate 1 hour at 37 °C
7. Aspirate and wash 5 times.
8. Add 90 µL of TMB Substrate to each well. Incubate for 15-30 minutes at 37 °C. Protect from light.
9. Add 50 µL Stop Solution to each well. Read at 450 nm within 5 minutes.

Reagent Preparation:

1. Biotin-antibody (1x) - Centrifuge the vial before opening. Biotin-antibody requires a 100-fold dilution. A suggested 100-fold dilution is 10 µL of Biotin-antibody + 990 µL of Biotin-antibody Diluent.
2. HRP-avidin (1x) - Centrifuge the vial before opening. HRP-avidin requires a 100-fold dilution. A suggested 100-fold dilution is 10 µL of HRP-avidin + 990 µL of HRP-avidin Diluent.
3. Wash Buffer (1x) - If crystals have formed in the concentrate, warm up to room temperature and mix gently until the crystals have completely dissolved. Dilute 20 mL of Wash Buffer Concentrate (25 x) into deionized or distilled water to prepare 500 mL of Wash Buffer (1 x).
4. Standard Centrifuge the standard vial at 6000-10000rpm for 30s. Reconstitute the Standard with 1.0 mL of Sample Diluent. Do not substitute other diluents. This reconstitution produces a stock solution of 1000 nIU/mL. Mix the standard to ensure complete reconstitution and allow the standard to sit for a minimum of 15 minutes with gentle agitation prior to making dilutions. Pipette 250 µL of Sample Diluent into each tube (S0-S6). Use the stock solution to produce a 2-fold dilution series (below). Mix each tube thoroughly before the next transfer. The undiluted Standard serves as the high standard (1000 nIU/mL). Sample Diluent serves as the zero standard (0 nIU/mL).

Note:

- Kindly use graduated containers to prepare the reagent. Please don't prepare the reagent directly in the Diluent vials provided in the kit.
- Bring all reagents to room temperature (18-25 °C) before use for 30 min.
- Prepare fresh standard for each assay. Use within 4 hours and discard after use.
- Making serial dilution in the wells directly is not permitted.
- Please carefully reconstitute Standards according to the instruction, and avoid foaming and mix gently until the crystals have completely dissolved. To minimize imprecision caused by pipetting, use small volumes and ensure that pipettors are calibrated. It is recommended to suck more than 10 µL for once pipetting.
- Distilled water is recommended to be used to make the preparation for reagents. Contaminated water or container for reagent preparation will influence the detection result.

Sample Preparation:

- It is recommended to use fresh samples without long storage, otherwise protein degradation and denaturation may occur in these samples, leading to false results. Samples should therefore be stored for a short period at 2 - 8 °C or aliquoted at -20 °C (≤1 month) or -80 °C (≤ 3 months). Repeated freeze-thaw cycles should be avoided. Prior to assay, the frozen samples should be slowly thawed and centrifuged to remove precipitates.
- If the sample type is not specified in the instructions, a preliminary test is necessary to determine compatibility with the kit.
- If a lysis buffer is used to prepare tissue homogenates or cell culture supernatant, there is a

Application Details

possibility of causing a deviation due to the introduced chemical substance. The recommended dilution factor is for reference only.

- Please estimate the concentration of the samples before performing the test. If the values are not in the range of the standard curve, the optimal sample dilution for the particular experiment has to be determined. Samples should then be diluted with PBS (pH = 7.0-7.2).

Note:

Recommend to dilute the serum or plasma samples with Sample Diluent (1:200) before test. The suggested 200-fold dilution can be achieved by adding 5 µL sample to 45 µL of Sample Diluent. Complete the 200-fold dilution by adding 15 µL of this solution to 285 µL of Sample Diluent. The recommended dilution factor is for reference only. The optimal dilution factor should be determined by users according to their particular experiments.

Assay Precision:

Intra-assay Precision (Precision within an assay): CV% < 8% Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV% < 10% Three samples of known concentration were tested in twenty assays to assess.

Restrictions:

For Research Use only

Handling

Storage:

4 °C, -20 °C

Storage Comment:

Unopened kit Store at 2 - 8°C. Do not use the kit beyond the expiration date May be stored for up to 1 month at 2 - 8°C. Coated assay Try to keep it in a sealed aluminum foil bag, plate and avoid the damp. Standard May be stored for up to 1 month at 2 - 8°C. If Biotin-antibody don't make recent use, better keep it store at HRP-avidin -20°C. Biotin-antibody Diluent Opened kit HRP-avidin Diluent Sample May be stored for up to 1 month at 2 - 8°C. Diluent Wash Buffer TMB Substrate Stop Solution *Provided this is within the expiration date of the kit.

Expiry Date:

6 months

Publications

Product cited in:

Li, Wang, Xu, Luo, Luo, Hao, Cheng, Fang, Wang, Zhang, Chen: "Berberine Improves Diabetic Encephalopathy Through the SIRT1/ER Stress Pathway in db/db Mice." in: **Rejuvenation research**, Vol. 21, Issue 3, pp. 200-209, (2018) ([PubMed](#)).

Li, Zhou, Chen, Zhang, Wang: "Kukoamine A attenuates insulin resistance and fatty liver through downregulation of Srebp-1c." in: **Biomedicine & pharmacotherapy**, Vol. 89, pp. 536-543, (2018)

([PubMed](#)).

Zeng, He, Jia, Hao: "Lycopene Improves Insulin Sensitivity through Inhibition of STAT3/Srebp-1c-Mediated Lipid Accumulation and Inflammation in Mice fed a High-Fat Diet." in:

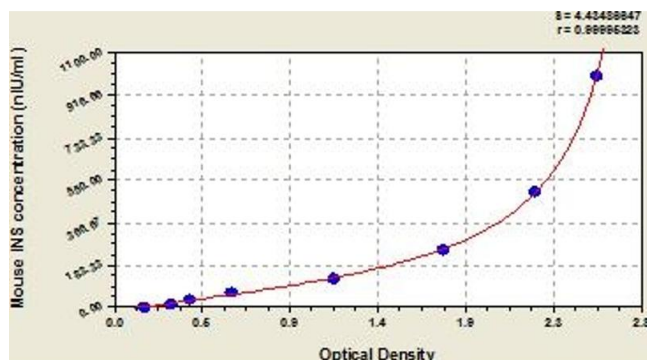
Experimental and clinical endocrinology & diabetes : official journal, German Society of Endocrinology [and] German Diabetes Association, Vol. 125, Issue 9, pp. 610-617, (2018) ([PubMed](#)).

Zhuang, Shou, Lu, Wang, Qiu, Wang, He, Chen, Jiao, Zhang: "Arachidonic acid sex-dependently affects obesity through linking gut microbiota-driven inflammation to hypothalamus-adipose-liver axis." in: **Biochimica et biophysica acta. Molecular basis of disease**, Vol. 1863, Issue 11, pp. 2715-2726, (2018) ([PubMed](#)).

Skurikhin, Pakhomova, Pershina, Ermolaeva, Krupin, Ermakova, Pan, Kudryashova, Rybalkina, Pavlovskaya, Litvyakov, Goldberg, Dygai: "Regenerative Potential of Spermatogonial Stem Cells, Endothelial Progenitor Cells, and Epithelial Progenitor Cells of C57Bl/6 Male Mice with Metabolic Disorders." in: **Bulletin of experimental biology and medicine**, Vol. 163, Issue 2, pp. 239-244, (2018) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)

Images



ELISA

Image 1. Typical Standard Curve