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Frequently sampled Insulin glucose tolerance test

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1 Works for me dx.doi.org/10.17504/protocols.io.3gpgjvn

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ABSTRACT

Summary:

This assay is used by the DiaComp to measure glucose tolerance and insulin sensitivity in pigs.

Diabetic Complications:

Reference:

1. Bergman RN, Finegood DT, Ader M: Assessment of insulin sensitivity in vivo. Endocr Rev 1985, 6:45-86.

EXTERNAL LINK

https://www.diacomp.org/shared/document.aspx?id=50&docType=Protocol

MATERIALS

NAME	CATALOG #	VENDOR
YSI Glucose Analyzer		YSI Life Sciences
ICN Insulin RIA kit		

MATERIALS TEXT

Reagents Quantity Required

Reagent/Material	Quantity Required
Intravenous catheter	2
ICN Insulin RIA kit	1 kit
YSI Glucose Analyzer	1

1 FSIGT or Bergman analysis

Pigs are studied after an overnight fast. The food intake of the animals is monitored for 3 days prior to the fast to ensure adequate carbohydrate intake. Two intravenous catheters are placed, one for sampling and one for infusing glucose and insulin. A bolus of glucose (0.3 gm/kg) is administered as a 50% solution over ~5 min. Blood samples are obtained at –15, -10, -5, -1, 0, 2, 3, 4, 5, 6, 8, 10, 12, 14, 16, and 19 minutes. At 20 minutes an insulin bolus (0.03U/kg) is injected and frequent blood samples for insulin and glucose measurements are collected up to the 180 minute time point. Insulin is measured by RIA (ICN) and glucose is measured on a YSI instrument (Yellow Springs, Ohio). The data were analyzed by the Bergman method to calculate an insulin sensitivity index (S_I) using MINMOD Millennium version 6.02.[1]

Reference:1. Bergman RN, Finegood DT, Ader M: Assessment of insulin sensitivity in vivo. Endocr Rev 1985, 6:45-86.