

# Insulin Blood Level HAS\_INS\_002

## Purpose

The insulin concentration in the blood is an important indicator of diabetes.

Ontological description: abnormal circulating insulin level [MP:0001560]; increased circulating insulin level [MP:0002079]; decreased circulating insulin level [MP:0002727].

## Experimental Design

Age of animal: Males at 33,57 and 72 weeks.

Sexual dimorphism: Yes.

## Equipment

1. ELISA plate reader / MSD Sector Imager
2. Vortex
3. Refrigerated centrifuge
4. Eppendorf tubes
5. Calibrated Pipettes

## Procedure

1. Blood is collected by the relevant blood collection procedure (see IMPC protocol "Blood collection by retro-orbital puncture"). Blood is collected in lithium heparin tubes and the samples are kept on ice for a maximum of 2 hours prior to isolation of the plasma.
2. Blood samples are centrifuged at 5,000 x g for 10 minutes at 8°C and the plasma removed and aliquoted for analysis or for freezing (-70°C).
3. Plasma samples are subsequently defrosted and the required amount of sample is used to perform the analysis (e.g. by ELISA or MSD).

## Notes

Blood collection for Insulin Blood Level is performed as a non-fasting, terminal procedure.

## Data QC

1. Plasma samples must be free of Fibrin clots in order to be analysed.
2. Badly hemolysed samples should not be included in the analysis.

## Example Metadata

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Metadata	Example	Required for data upload	Required for data analysis
Type of kit	The kit used for analysing the blood samples. E.g. Mouse Insulin kit	YES	NO
Kit manufacturer	Manufacturer of the kit. E.g. MORINAGA (Yokohama, Japan)	YES	NO
Kit lot number		YES	NO
Equipment ID	ID of the machine used when more than 1 is used having same model and manufacturer. E.g. machine 1, machine 2, machine Minnie, machine Mickey Mouse, etc.	YES	NO
Equipment manufacturer	Manufacturer of the equipment. E.g. Thermo scientific.	YES	YES
Equipment model	Model of the equipment. E.g. Multiskan JX.	YES	YES
Blood collection tubes	The tubes used for blood collection. E.g. Sarstedt Li-Heparin gel tubes or Kabe Labortechnik Lithium heparin coated tubes.	NO	YES
Anesthesia used for blood collection	The anesthetic used during blood collection. E. g. Isoflurane.	YES	YES
Method of blood collection	Concise description of the method used for blood collection. E.g. retro-orbital puncture.	YES	YES
Anticoagulant	Anticoagulant used for blood collection. E.g. Li-Heparin.	YES	YES

Date and time of blood collection	Time of day for collection is in the morning, starting no earlier than 07:30. E.g. Year, month, day, time.	YES	YES
Date of measurement	The day of blood analysis. Year, month, day.	YES	YES
Sample status	Indicate if the sample were frozen (analysis on the same day of collection not possible) or fresh (analysis on the same day of collection). E.g. Fresh/Frozen.	YES	YES
Samples kept on ice between collection and analysis	Yes/No.	YES	YES
Plasma dilution	Dilution is highly discouraged but if necessary indicate here. E.g. "No dilution" or 1:2. Note that results submitted to DCC are assumed to be already corrected for any dilutions made.	YES	YES
Replicates	Please specify whether samples were measured once, in duplicate or in triplicate. E.g. 1 or 2 or 3.	YES	NO
ID of blood collection SOP	ID of the protocol followed for blood collection. Can be a centre specific protocol. E.g. ESLIM_024_001.	YES	YES
Hemolysis status	The gauged degree of hemolysis. E.g. slight/moderate/marked.	NO	YES
Blood collection experimenter ID	An ID of any format to be used coherently both inside the same procedure and for all procedures indicating the experimenter who collected the blood. E.g. Harw_001, or 1/2/3.	YES	NO

Blood analysis experimenter ID	An ID of any format to be used coherently both inside the same procedure and for all procedures indicating the experimenter who analyzed the blood. E.g. Harw_001, or 1/2/3.	YES	NO
Date equipment last calibrated	Most recent date in which the equipment (or any part of) used in the procedure was subject to a calibration event.	NO	NO

## Parameters and Metadata

### Insulin HAS\_INS\_001\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Unit Measured: ug/L

Description: insulin

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### Type of kit HAS\_INS\_002\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Description: type\_of\_kit

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## **Kit manufacturer** HAS\_INS\_003\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** false

**Description:** kit\_manufacturer

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## **Kit lot number** HAS\_INS\_004\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** false

**Description:** kit\_lot\_number

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## **Equipment ID** HAS\_INS\_005\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** false

**Description:** equipment\_id

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## **Equipment manufacturer** HAS\_INS\_006\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Description: equipment\_manufacturer

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## Equipment model HAS\_INS\_007\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Description: equipment\_model

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## Blood collection tubes HAS\_INS\_008\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: false

Is Annotated: false

Description: blood\_collection\_tubes

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## Anesthesia used for blood collection HAS\_INS\_009\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Description: anesthesia\_used\_for\_blood\_collection

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## Method of blood collection HAS\_INS\_010\_001 | v1.0

procedureMetadata

**Req. Analysis:** true

**Req. Upload:** true

**Is Annotated:** false

**Description:** method\_of\_blood\_collection

**Options:** Cardiac puncture, Retro-orbital puncture, Heart puncture, Jugular vein, Tail vein,

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## Anticoagulant HAS\_INS\_011\_001 | v1.0

procedureMetadata

**Req. Analysis:** true

**Req. Upload:** true

**Is Annotated:** false

**Description:** anticoagulant

**Options:** No, Lithium Heparin, Sodium Heparin, Heparin,

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## Date of procedure HAS\_INS\_012\_001 | v1.1

procedureMetadata

**Req. Analysis:** true

**Req. Upload:** true

**Is Annotated:** false

**Unit Measured:** Date/time

**Description:** date\_and\_time\_of\_blood\_collection

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## Date of measurement HAS\_INS\_013\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: Date

Description: date\_of\_measurement

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## Sample status HAS\_INS\_014\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Description: sample\_status

Options: Fresh, Frozen,

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## Samples kept on ice between collection and analysis HAS\_I NS\_015\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Description: samples\_kept\_on\_ice\_between\_collection\_and\_analysis



Options: Yes, No,

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## Plasma dilution HAS\_INS\_016\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Description: plasma\_dilution

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## Replicates HAS\_INS\_017\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Description: replicates

Options: 1, 2, 3,

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## Hemolysis status HAS\_INS\_019\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: false

Is Annotated: false

Description: hemolysis\_status

Options: Slight, Moderate, Marked,

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## Blood collection PIL number HAS\_INS\_020\_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Description: blood\_collection\_experimenter\_id

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## Blood analysis experimenter ID HAS\_INS\_021\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Description: blood\_analysis\_experimenter\_id

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## Fasting prior to test HAS\_INS\_022\_001 | v1.1

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Options: Yes, No,

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## Length of fast HAS\_INS\_023\_001 | v1.1

procedureMetadata

Req. Analysis: true

Req. Upload: false

Is Annotated: false

Unit Measured: Hours

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## Procedural comments HAS\_INS\_018\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Body Weight HAS\_INS\_024\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: g

Description: body\_weight

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## General comments HAS\_INS\_025\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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