\*Title: **Insulin blood level**

\*Centre:IMPC

\*Date\_modified: 10-12-2012

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\*Version: 1

{Sections:}

## \*1. 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].

## \*2. Experimental Design

Minimum number of mutant animals: 7 mice for each sex.

Age of animal: 16 weeks.

Sexual dimorphism: Yes.

## \*3. Equipment

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

## \*4. 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 (-70oC).
3. Plasma samples are subsequently defrosted and the required amount of sample is used to perform the analysis (e.g. by ELISA or MSD).

## \*5. 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.

## \*6. Measured Parameters - list

{Placed in Parameters spreadsheet}

## \*7. MetaData Parameters - list

|  |  |  |  |
| --- | --- | --- | --- |
| **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. Isofluorane. | 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 |