- Introduction -

Measuring rodent insulin in fasting and after feeding is important in diabetic research, however there are some issues to measure such as (1) no much sample amount can be obtained, (2) very low concentration in fasting and (3) huge gap of two concentration of insulin between the samples in fasting and after feeding for measuring in same assay. IBL offers the following 4 assay kits for solving such issues.

3 Advantages

1. Only tiny sample is needed.
2. Low conc. in fasting can be measured.
3. Low and high conc. in same assay (CLEIA).

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Product Name</th>
<th>Measurement Range (pg/mL)</th>
<th>Sample Volume</th>
<th>Measuring Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>27705</td>
<td>Mouse/Rat Total Insulin (high sensitivity) ELISA</td>
<td>1.25 – 80</td>
<td>2 μL</td>
<td>✔</td>
</tr>
<tr>
<td>27707</td>
<td>Mouse/Rat Total Insulin CLEIA</td>
<td>41.15 - 30,000</td>
<td>5 μL</td>
<td>✔</td>
</tr>
<tr>
<td>27706</td>
<td>Mouse/Rat Intact Proinsulin ELISA</td>
<td>1.4 - 90</td>
<td>20 μL</td>
<td>✔</td>
</tr>
<tr>
<td>27708</td>
<td>Mouse/Rat Intact Proinsulin CLEIA</td>
<td>9 – 6,480</td>
<td>10 μL</td>
<td>✔</td>
</tr>
</tbody>
</table>

ELISA / CLEIA

96Well

Please feel free to contact us if you are interested in evaluating IBL Assay kits.

Distributed by:

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Reference Data

It has been considered that the conversion rate from proinsulin to insulin in type 2 diabetes patients decreases due to dropping down of PC1/3 enzymatic activity by abnormal function of pancreatic β cells.

The ratio of intact proinsulin and insulin “P/I ratio” is known as an index of clinical human pancreatic β-cell function and it is valuable for the evaluation. The ratio can be calculated by the value of **Intact proinsulin and total insulin in same assay**.

**Mouse Total Insulin in EDTA-Plasma**

![Graph showing mouse total insulin in EDTA-plasma](image)

**Comparison Study in Mouse EDTA-Plasma in fasting by CLEIA**

- **Total Proinsulin**
  - **Used Animal**: Male Wild Type mice: 10 (age: 6 weeks)
  - Male db/db mice: 10 (age: 6, 8 and 9 weeks)
  - **Study**: Comparison study of total and intact proinsulin level in fasting using different ages of diabetic mice.
  - **Result**: It has been observed that only Intact Proinsulin level was changed in db/db mice in different ages.

**Quoted from**
The graphs are quoted from Anal Biochem. 2015 Sep 1;484:91-8.

**Reference**