



# Mouse /Rat Insulin

## Diabetes

Research Use Only

### - 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)**.

### ELISA / CLEIA

96Well

Product Code	Product Name	Measurement Range (pg/mL)	Sample Volume	Measuring Samples			
				Serum	EDTA-Plasma	Heparin-Plasma	Super-netant
27705	Mouse/Rat Total Insulin (high sensitivity) <b>ELISA</b>	1.25 - 80	2 µL	✓	✓	-	-
27707	Mouse/Rat Total Insulin <b>CLEIA</b>	41.15 - 30,000	5 µL	✓	✓	-	-
27706	Mouse/Rat Intact Proinsulin <b>ELISA</b>	1.4 - 90	20 µL	✓	✓	-	✓
27708	Mouse/Rat Intact Proinsulin <b>CLEIA</b>	9 - 6,480	10 µL	✓	✓	✓	-

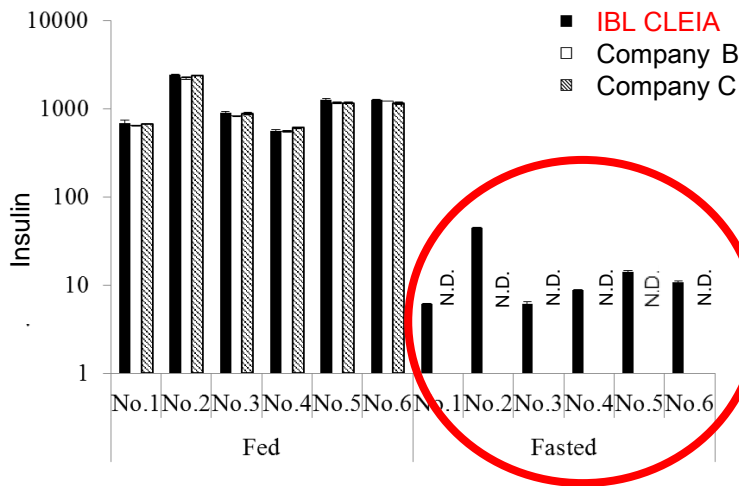
Please feel free to contact us if you are interested in evaluating IBL Assay kits.

**Distributed by:**

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  $\beta$  cells.

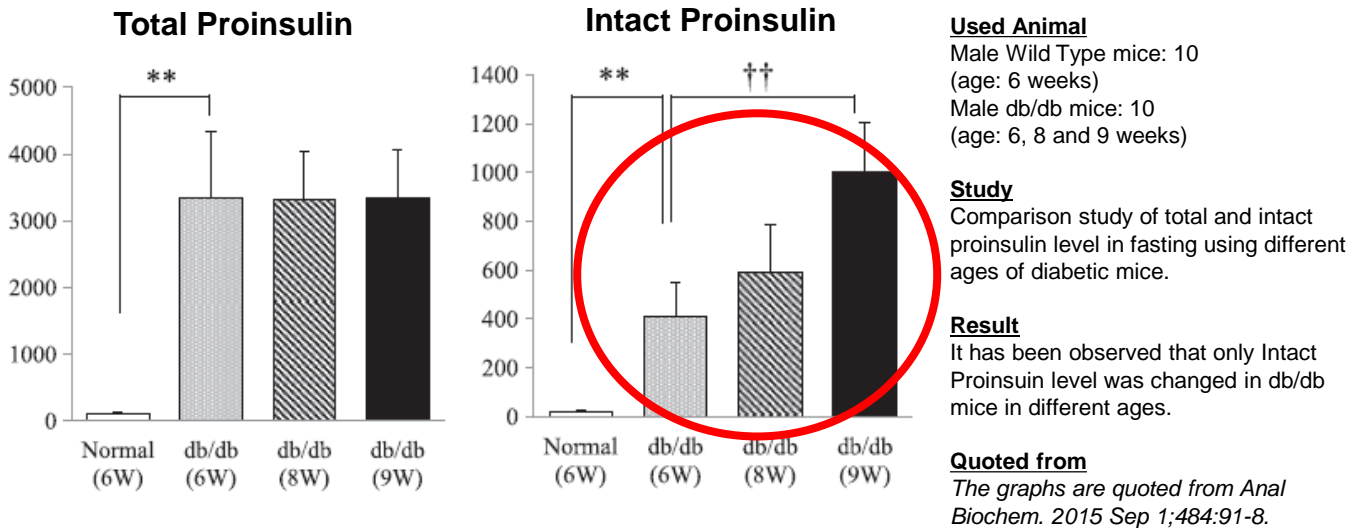
The ratio of intact proinsulin and insulin “**P/I ratio**” is known as an index of clinical human pancreatic  $\beta$ -cell function and it is valuable for the evaluation. The ratio can be calculated by the value of **Intact proinsulin and total insulin in same assay**.

## Mouse Total Insulin in EDTA-Plasma



Quoted from: *The graph is quoted from Anal Biochem. 2015 Mar 15;473:72-9. Comparison data of CLEIA system*

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



### 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

- 1: Development of an ultrasensitive immunoassay using affinity matured antibodies for the measurement of rodent insulin. Imai S et al. *Anal Biochem. 2015 Mar 15;473:72-9.*
- 2: Development of a novel immunoassay specific for mouse intact proinsulin. Imai S et al. *Anal Biochem. 2015 Sep 1;484:91-8.*