

# RAT PROINSULIN ELISA

80-PINRT-E01

In humans, increased relative circulating concentrations of proinsulin, as compared to insulin and/or C-peptide, is symptomatic of  $\beta$ -cell stress. Because of multiple barriers in the ability to easily and accurately measure rodent proinsulin, relatively limited data has been published regarding concentrations of this molecule. These barriers stem from the variation in the rodent gene for proinsulin, resulting in the expression of two insulin precursor proteins, proinsulin I and II.

ALPCO is pleased to offer the first commercially available proinsulin ELISA kit with defined cross-reactivity to both rat proinsulin I and II.

## CHARACTERISTICS

Sample Type:	serum
Sample Size:	10 $\mu$ l
Size:	96 wells
Range:	4-300 pM
Sensitivity:	1.75 pM
Incubation Time:	2 hours 30 minutes

## CROSS-REACTIVITY SUMMARY

Rat Proinsulin-I	92.0%
Rat Proinsulin-II	103.3%
Human C-peptide	n.d.*
Human Insulin	n.d.*
Mouse C-peptide I	n.d.*
Mouse C-peptide II	n.d.*
Rat C-peptide I	n.d.*
Rat C-peptide II	n.d.*
Mouse Proinsulin I	125.7%
Mouse Proinsulin II	27.0%

\*non-detectable

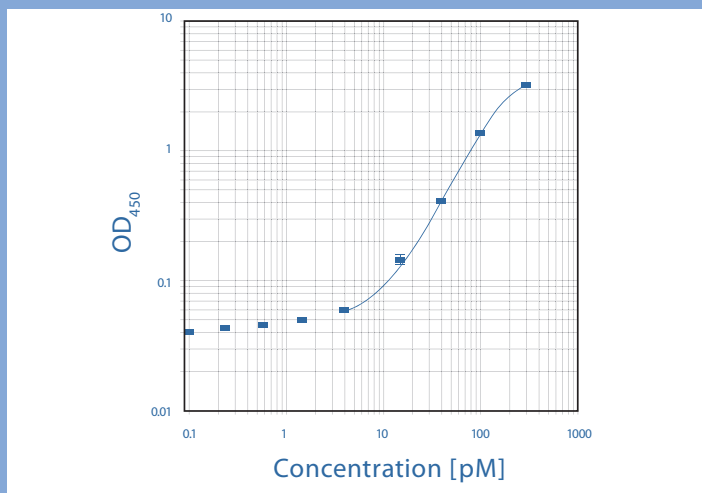
**Figure 1:** Cross-reactivity of various peptides in the ALPCO Rat Proinsulin ELISA.

FOR RESEARCH USE ONLY

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## STANDARD CURVE

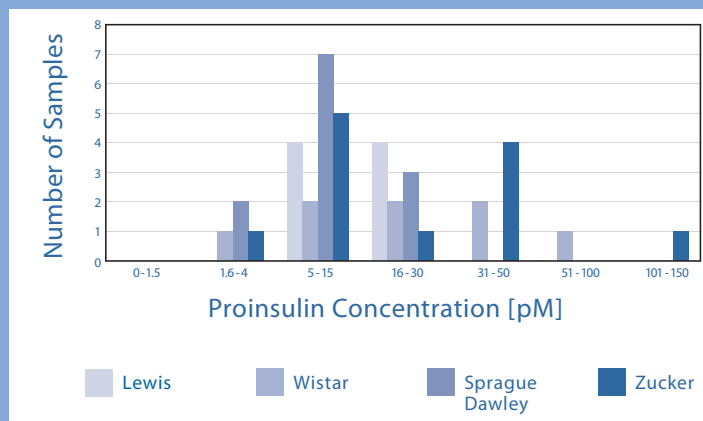


**Figure 2:** Representative ALPCO Rat Proinsulin Standard Curve with a dynamic range of 4 – 300 pM.

## BENEFITS

- **Sensitive:** Detects to 3 pM
- **Only 10 µl of sample required**
- **Controls Included**
- **Fully characterized cross-reactivity** to both proinsulin I and II (see Figure 1)
- **Confidence:** Reproducible commercial ELISA kit – the only one available

## SAMPLE DISTRIBUTION



**Figure 3:** A panel of fasted rat sera was screened for total rat proinsulin levels (n=40). Male and female genders from Lewis, Wistar, Sprague Dawley, and Zucker rats returned and average total proinsulin concentration of 19.9 pM (1.6 – 132.7 pM range).

## RELATED BIOMARKERS

- Insulin (Rat)
- C-peptide (Rat)
- Glucagon (Human, Mouse, Rat)
- GLP-1 (Human, Mouse, Rat)
- GLP-2 (Rat)

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