Intact Proinsulin

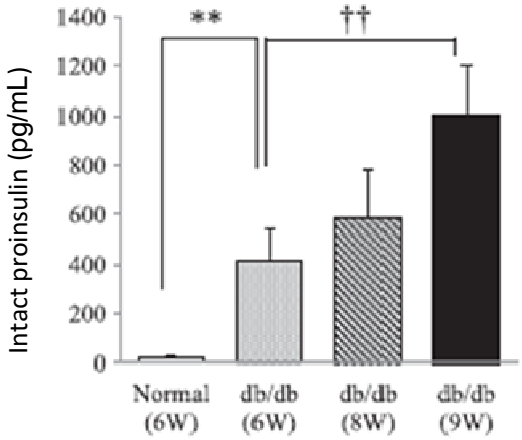
Diabetes

Research Use Only

Proinsulin is a precursor of insulin that is synthesized in the β cells of the islet of Langerhans of pancreas. Most of the proinsulin synthesized in the rough endoplasmic reticulum of β cells is stored in the secretory granules. Proinsulin is cleaved by prohormone converting enzyme (PC) 1/3 at the junction of the C-peptide with the B-chain of insulin, subsequently it is cleaved by PC2 at the junction of the C-peptide with the A-chain of insulin, consequently it is divided into insulin that consists of 21 amino-acid A chain and 30 amino-acid β chain and c-peptide that consists of 33 amino acid. 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. Thus, intact proinsulin level in blood or the ratio of intact proinsulin and insulin (P/I ratio) can be considered to become a potential biomarker that reflects functional change of the PC1/3 activity at pancreaticβ cell. Especially, It has been known that the P/I ratio is a valuable pancreatic β cell evaluation method that does not require a loading test as it can be measured using blood samples in fasting.
This ELISA kit can be used for measuring intact proinsulin, not including cleaved intermediate products, in mouse and rat samples.

Product Code	Product Name	Size	Measurement Range (pg/mL)	Sample Type	Required sample volume	Measuring Sample	
						Serum	EDTA-Plasma
27706	Mouse/Rat Intact Proinsulin Assay Kit – IBL	96 well	14.4 ~ 900	Mouse, Rat	20 µL	○	○
Under Development	Mouse/Rat Intact Proinsulin CLEIA Kit - IBL	96 well	7.38 ~ 1800	Mouse, Rat	10 µL	○	○

Measurement of Intact Proinsulin in mouse EDTA-Plasma



(Data Description)
db/db (diabetic mice), wild type male mice 10 each cycle
Comparison Wild type (6 weeks) vs db/db 6 weeks, 8 weeks and 10 weeks

Quoted from *Anal Biochem. 2015 Sep 1;484:91-8.*
result obtained by CLEIA measurement

【Reference】

1. Imai S, Takahashi T, Naito S, Yamauchi A, Okada C, Notsu Y, Sakikawa I, Hatanaka M, Iwasaki T, Morita A, Fujii I, Yamane S. Development of a novel immunoassay specific for mouse intact proinsulin. *Anal Biochem. 2015 Sep 1;484:91-8.*

Distributed by

Immuno-Biological Laboratories, Inc.
8201 Central Ave NE, Suite P
Minneapolis, MN 55432

Toll-Free: 888-523-1246
Email: info@IBL-America.com
Web: www.IBL-America.com