

Human Intact Proinsulin ELISA (TECO®) Data Sheet
For Research Use Only

Cat. No.: TE1011
Tests: 96
Method: ELISA
Range: ~3 – 100 pmol/l
Sensitivity: 0.3 pmol/l
Incubation time: 2.5 hours
Sample volume: 50 µl
Sample type: Serum, EDTA/ Heparin plasma, cell culture
Sample preparation: Fasting blood sample collection.
 Due to higher stability, EDTA or heparin plasma samples are preferred over serum samples.

Plasma: the sample collection can take place in HbA_{1c}-tubes. These samples are stable at room temperature and should be centrifuged within 48 hours. Plasma should be used in the assay or can be stored in aliquots, stable > 2 years at -20 °C.

Serum: centrifuge whole blood within 4 hours. Proteases degrade intact proinsulin in serum, do not store longer than 1 day at 2-8 °C. Serum should be used in the assay or can be stored in aliquots at -20 °C. Avoid repeated freeze/thaw cycles.

Reference values: After fasting: mean 3.99 pmol/l +/- 1.58 SD
 ≤ 11 pmol/l (normal secretion)
 > 11 pmol/l (dysfunction of secretion)

Species: Human
Specificity: No cross-reactivity has been observed:

Human Insulin	< 10 000 pmol/l
Human C-Peptide	50 000 pmol/l
Des (31,32) - Proinsulin	< 200 pmol/l
Split (32,33) - Proinsulin	5000 pmol/l
Des (64,65) - Proinsulin*	200 pmol/l
1000 pmol/l	Split (65,66) - Proinsulin

*not present in Serum and Plasma samples

Background Information:

Proinsulin is produced in pancreatic cells and is normally further processed to insulin and C-peptide. It is typically present in low concentrations in the plasma. However, an increase in insulin demand can result in increased expression of proinsulin in blood. Intact proinsulin is rapidly degraded, but is considered to be an independent, detectable factor. The intact molecule and its degradation products are known to block fibrinolysis due plasminogen-activator inhibitor (PAI-1) stimulation.