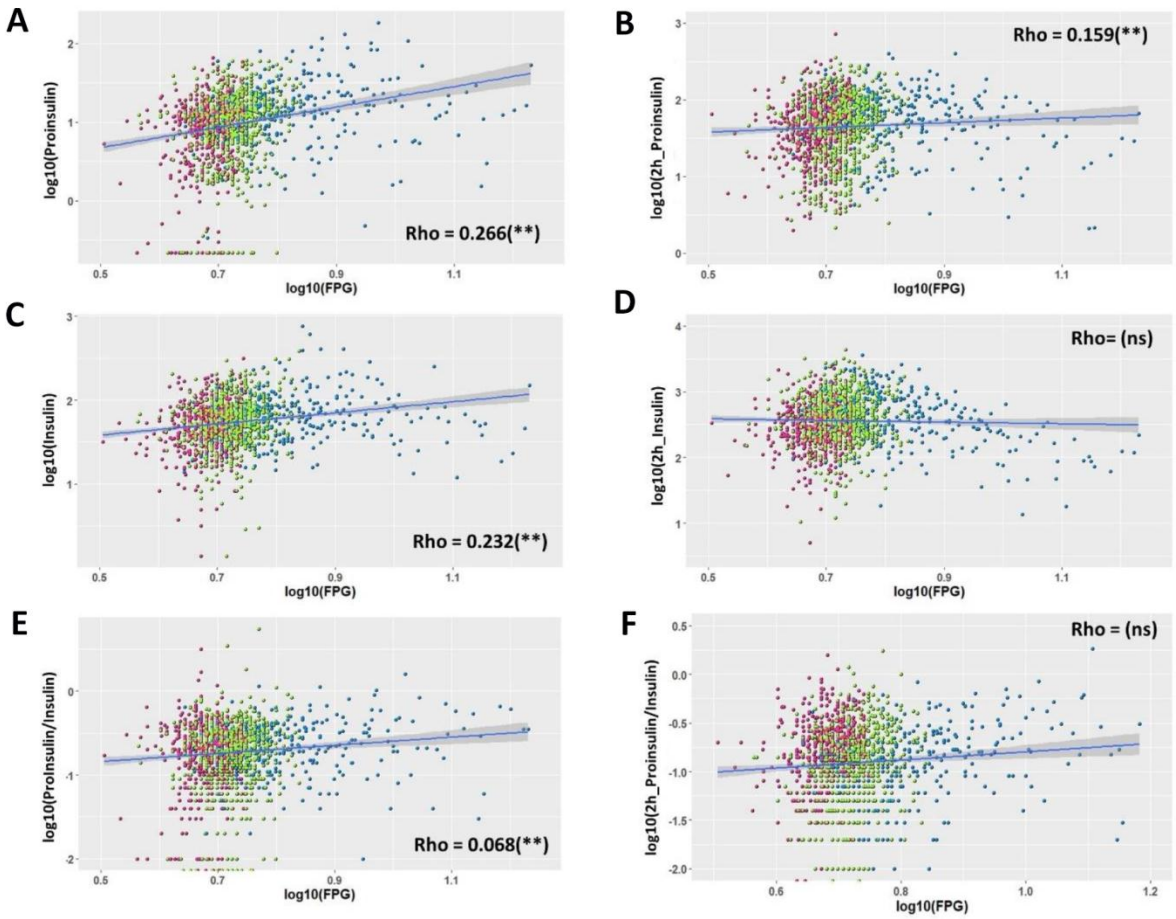
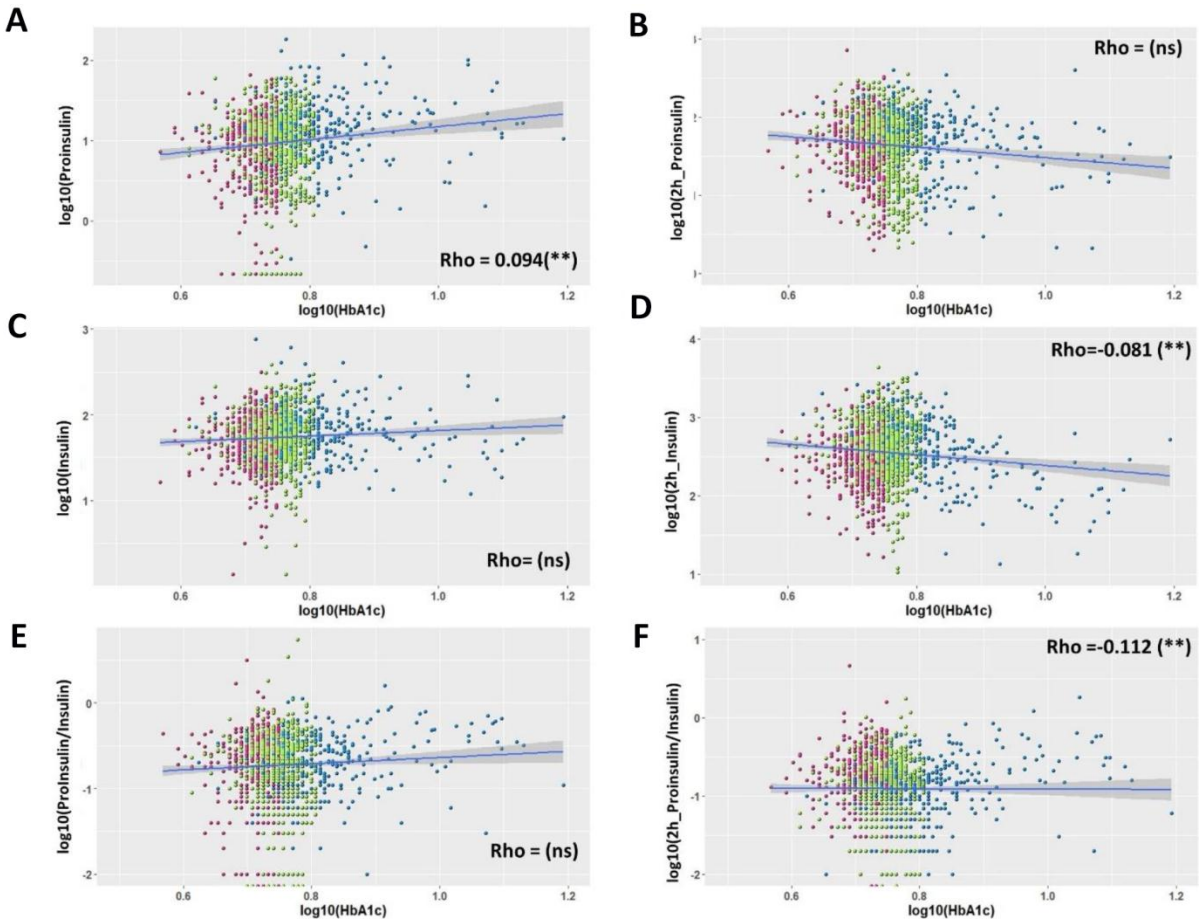
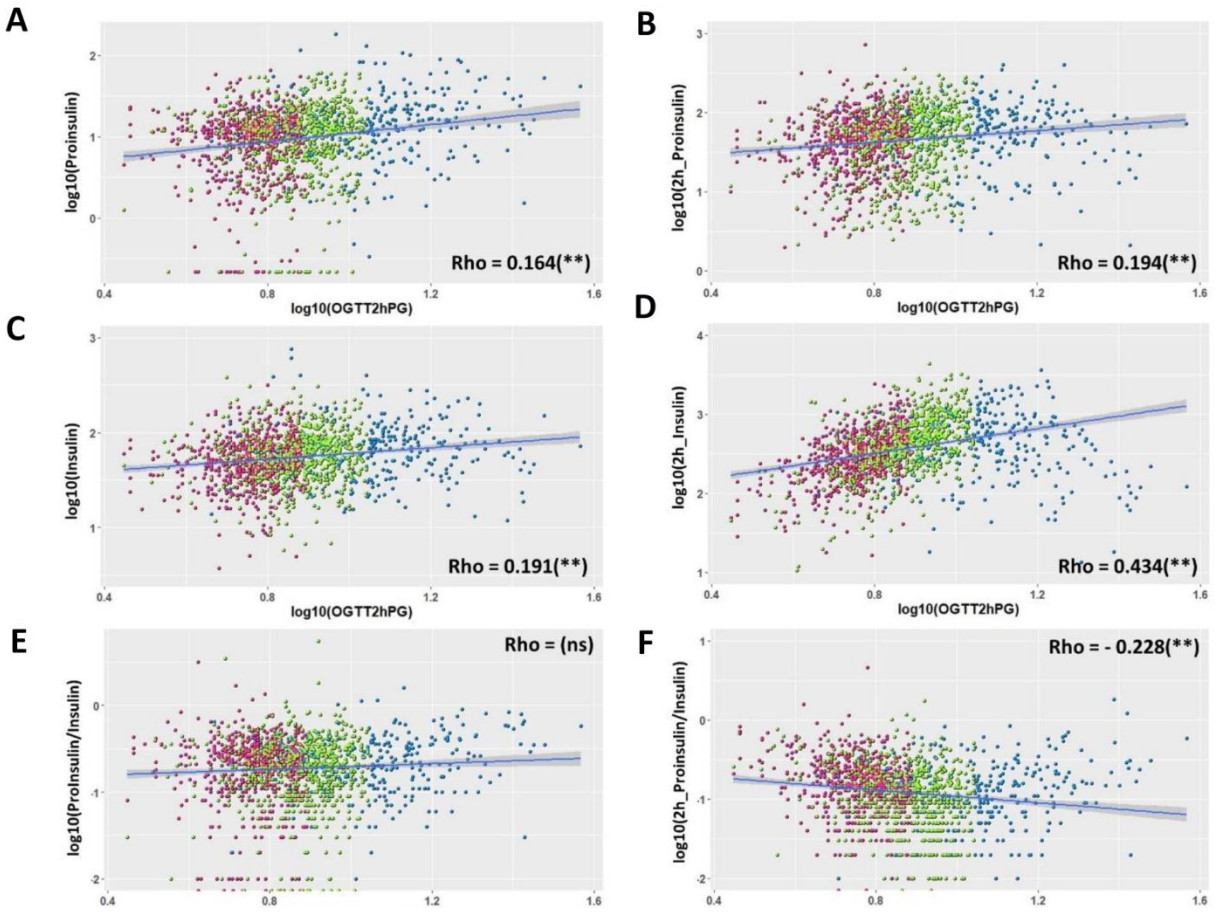
SUPPLEMENTARY FIGURES



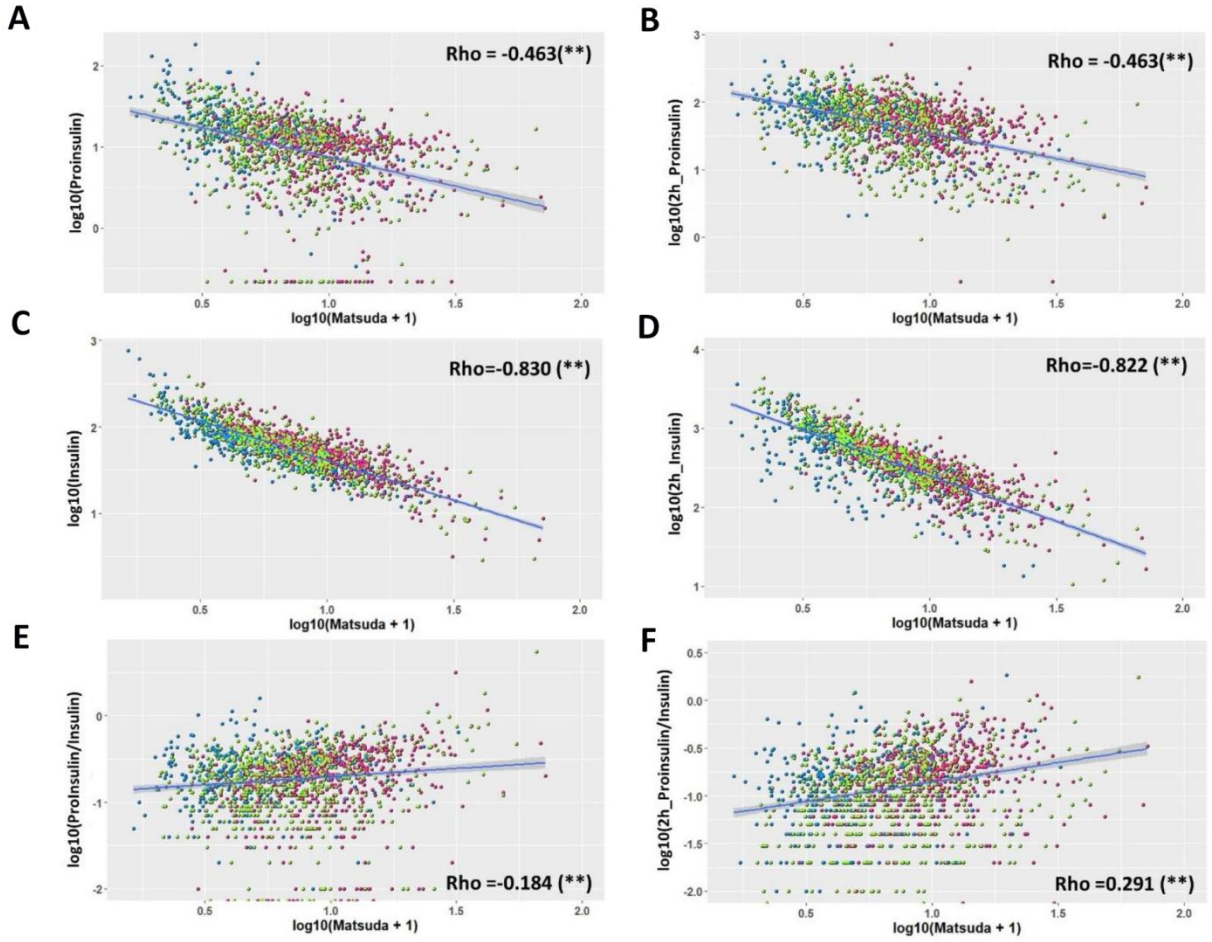
Supplementary Figure 1. (related to Figure 2). Weak to no association of fasting proinsulin, fasting insulin levels and fasting proinsulin to insulin (P/I) ratio with fasting plasma glucose (FPG) in the whole population. (**A**) Fasting proinsulin was weakly associated with FPG in the whole population and better than insulin and P/I ratio in predicting diabetes. Data from 1579 participants were log transformed, scatter plotted and linear modeled by using R language. Association strength was evaluated by Spearman's association coefficient (Rho) using SPSS software, with absolute Rho < 0.3 considered weak, 0.3≤Rho<0.6 moderate and Rho≥0.6 strong association; ns, not significant. (**B**) Glucose-stimulated proinsulin levels was weakly associated with FPG in the whole population. (**C**) Fasting insulin levels was weakly associated with FPG in the whole population. (**D**) Glucose-stimulated insulin had no association with FPG in the whole population. (**E**) Fasting P/I ratio was weakly associated with FPG in the whole population. (**F**) Glucose-stimulated P/I ratio was not significantly associated with FPG in the whole population.



Supplementary Figure 2. (related to Figure 3). Weak to no association of fasting proinsulin, fasting insulin levels and fasting proinsulin to insulin (P/I) ratio with diabetic indicator hemoglobin A1c (HbA1c) in the whole population. (**A**) Fasting proinsulin had very weak association with HbAc1 in the whole population. Data from 1579 participants were log transformed, scatter plotted and linear modeled by using R language. Association strength was evaluated by Spearman's association coefficient (Rho) using SPSS software, with absolute Rho < 0.3 considered weak, 0.3≤Rho<0.6 moderate and Rho≥0.6 strong association; ns, not significant. (**B**) Proinsulin levels after 2-hour glucose stimulation in an oral glucose tolerance test (OGTT) showed no significant association with HbA1c in the whole population. (**C**) Fasting insulin levels was not significantly associated with HbA1c in the whole population. (**D**) Insulin levels after 2-hour OGTT had negative and weak association with HbA1c in the whole population. (**E**) No significant association of fasting P/I ratio with HbA1c in the whole population. (**F**) Weak and negative association of glucose-stimulated P/I ratio with HbA1c in the whole population.



Supplementary Figure 3. (related to Figure 4) Association of fasting proinsulin, fasting insulin levels and fasting proinsulin to insulin (P/I) ratio with diabetic indicator 2-hour glucose levels after an oral glucose tolerance test (OGTT2hPG) in the whole population. (**A**) Fasting proinsulin had weak association with OGTT2hPG in the whole population. Data from 1579 participants were log transformed, scatter plotted and linear modeled by using R language. Association strength was evaluated by Spearman's association coefficient (Rho) using SPSS software, with absolute Rho < 0.3 considered weak, 0.3≤Rho<0.6 moderate and Rho≥0.6 strong association; ns, not significant. (**B**) Proinsulin levels after OGTT showed weak association with OGTT2hPG in the whole population. (**C**) Fasting insulin levels was weakly associated with OGTT2hPG in the whole population. (**D**) Insulin levels after OGTT had moderate (Rho =0.434) association with OGTT2hPG in the whole population. (**E**) No significant association of fasting P/I ratio with OGTT2hPG in the whole population. (**F**) Weak and negative association of glucose-stimulated P/I ratio with OGTT2hPG in the whole population.



Supplementary Figure 4. (related to Figure 5) Association of fasting proinsulin, fasting insulin levels and fasting proinsulin to insulin (P/I) ratio with insulin sensitivity index Matsuda index in the whole population. (**A**) Fasting proinsulin had negative association with Matsuda index in the whole population. Data from 1579 participants were log transformed, scatter plotted and linear modeled by using R language. Association strength was evaluated by Spearman's association coefficient (Rho) using SPSS software, with absolute Rho < 0.3 considered weak, 0.3≤Rho<0.6 moderate and Rho≥0.6 strong association; ns, not significant. (**B**) Proinsulin levels after glucose stimulation in an oral glucose tolerance test (OGTT) had moderate association with Matsuda index in the whole population. (**C**) Fasting insulin levels was strongly associated with Matsuda index in the whole population. (**D**) Insulin levels after glucose stimulation in OGTT strongly associated with Matsuda index in the whole population. (**E**) Weak association of fasting P/I ratio with Matsuda index in the whole population. (**F**) Weak association of glucose-stimulated P/I ratio with Matsuda index in the whole population.