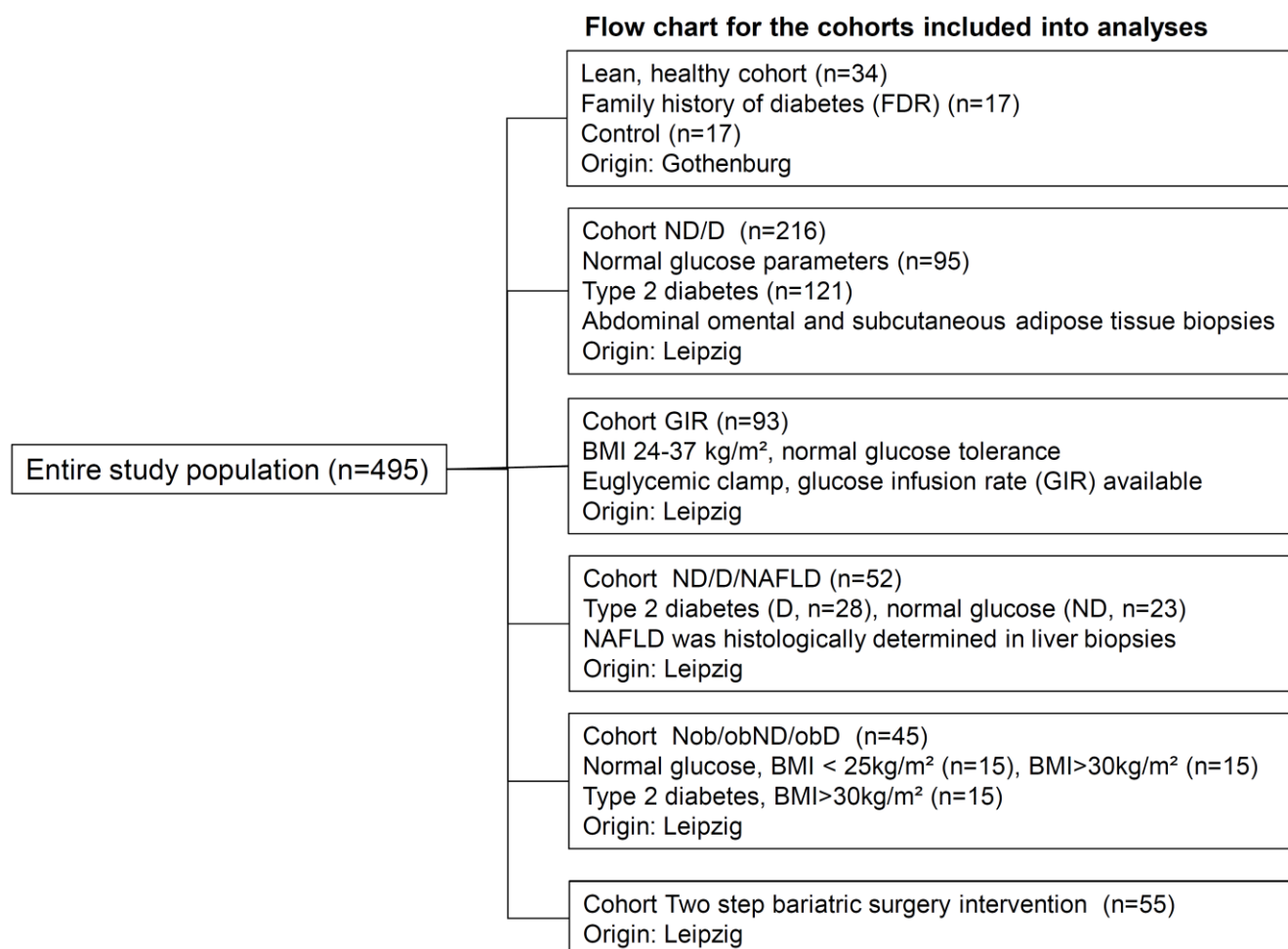


SUPPLEMENTARY DATA

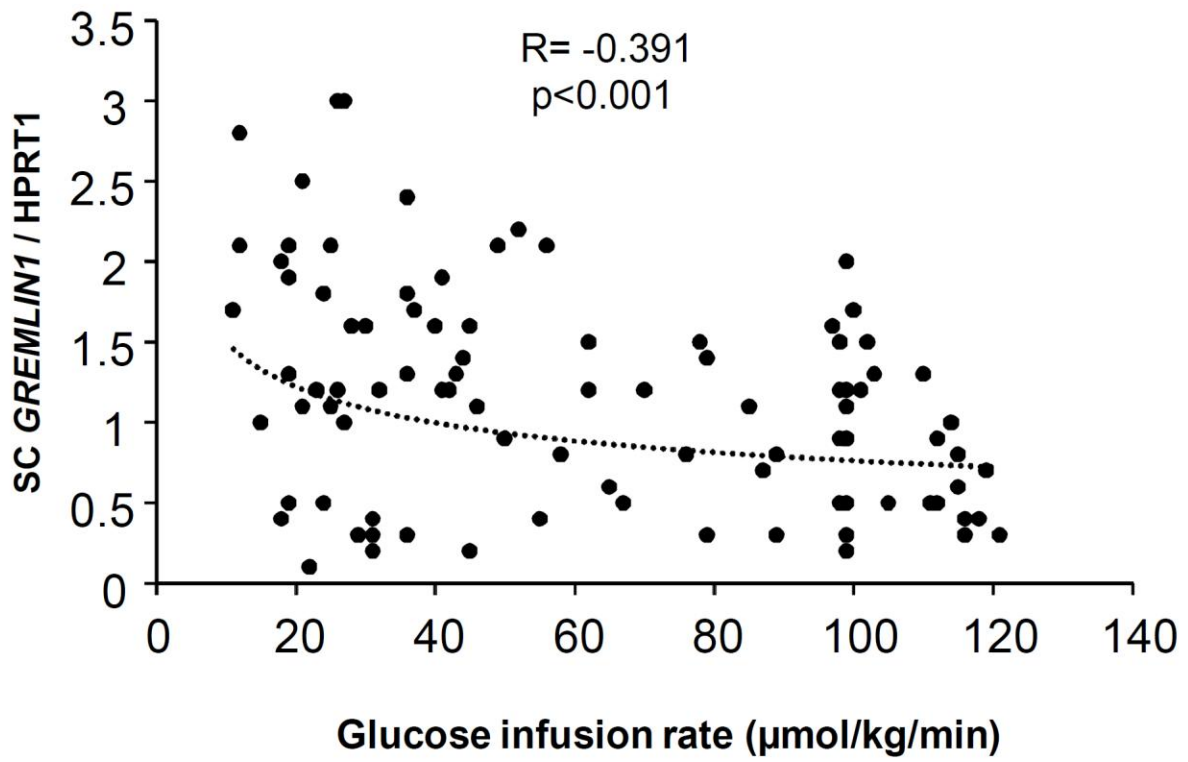
Supplementary Figure 1. Flow chart describing the cohorts that were included in the analyses



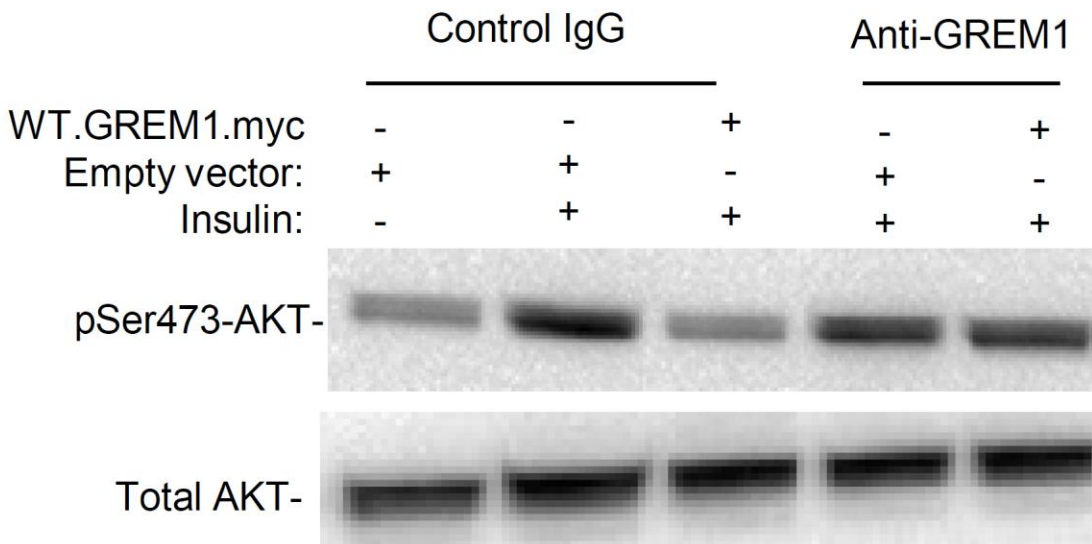
SUPPLEMENTARY DATA

Supplementary Figure 2. (A) *GREMLIN 1* mRNA in subcutaneous adipose tissue is inversely correlated to glucose infusion rate during hyperinsulinemic euglycemic clamps in cohort GIR. (B) Representative immunoblots showing that treatment with anti-Gremlin 1 antibody blunts the effect of recombinant Gremlin 1 on inhibiting insulin-stimulated AKT phosphorylation in HepG2 cells (n=3).

A



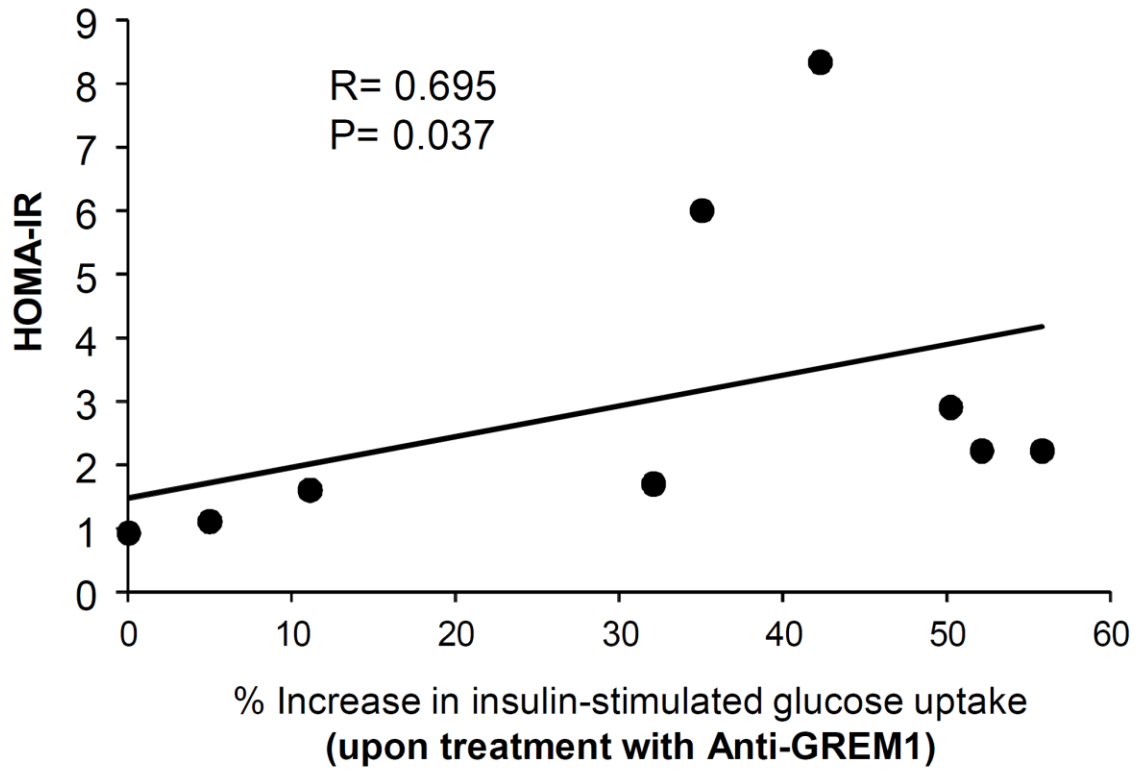
B



SUPPLEMENTARY DATA

Supplementary Figure 3. (A) The magnitude of insulin-stimulated glucose uptake in anti-Gremlin 1-treated primary human adipocytes, is correlated to degree of insulin resistance measured as HOMA-IR index. (B) *GREMLIN 1* mRNA expression in subcutaneous and visceral adipose tissue in individuals with obesity who underwent a two-step bariatric surgery compared to baseline (*GREMLIN 1* mRNA expression before the two-step bariatric surgery). The graph displays means \pm SEM.

A



B

