Description of Additional Supplementary Files

Supplementary Data 1: Overview of the studies contributing to the multi-ancestry meta-analyses and their respective criteria for defining gestational diabetes mellitus (GDM) cases and controls in genome-wide association studies (GWAS).

Supplementary Data 2: Individual sample size for each trait within each contributing cohort.

Supplementary Data 3: Study-level quality control, pre-phasing, imputation and association analysis of GWAS contributing to the meta-analyses.

Supplementary Data 4: Lead variants from the multi-ancestral maternal GDM meta-analyses and their ancestry-specific effects.

Supplementary Data 5: Summary of the lead GDM SNPs reported in previous studies but that were not replicated in our study.

Supplementary Data 6: Results from genome-wide fine-mapping of the European-ancestry gestational diabetes mellitus (GDM) meta-analysis using the SBayesRC model implemented in GCTB.

Supplementary Data 7: Lead variants from the multi-ancestral maternal meta-analyses of glycemic traits and their ancestry-specific effects.

Supplementary Data 8: FUMA-based functional mapping of loci associated with glycemic traits and GDM in East Asians and Europeans.

Supplementary Data 9: Heterogeneity in allelic effects due to universal screening or BMI for lead variants from multi-ancestry meta-analyses of maternal GDM and FG, repsectively.

Supplementary Data 10: SNP heritability estimates and measures of genomic inflation for GDM and glycemic traits GWAS meta-analyses during pregnancy obtained using LDSC regression.

Supplementary Data 11: Gene-based association test results for Gestational Diabetes Mellitus (GDM), Fasting Glucose (FG), 1-hour Glucose (1hG), and 2-hour Glucose (2hG) in Europeans.

Supplementary Data 12: Gene-based association test results for Gestational Diabetes Mellitus (GDM), Fasting Glucose (FG), 1-hour Glucose (1hG), and 2-hour Glucose (2hG) in East Asians.

Supplementary Data 13: Genetic correlation estimates from LDSC regression analysis in Europeans and East Asians.

Supplementary Data 14: Results from the SCOUTJOY analysis comparing SNP effect sizes between GDM and T2DM and between traits in and outside of pregnancy.

Supplementary Data 15: Shared variant analyses of GDM and T2DM in Europeans and East Asians.
Supplementary Data 16: Results for the colocalization analyses in Europeans and East Asians.

Supplementary Data 17: Descriptive statistics for the analyses investigating the effects of GDM-associated lead SNPs with glucose levels during and after pregnancy.

Supplementary Data 18: Summary of the effects of the independent GDM variants on glucose measurements during and post-pregnancy across cohorts and results of the SNP-by-SNP meta-analysis for all glucose traits.

Supplementary Data 19: Associations between glucose levels and genetic risk scores (GRS) during and after pregnancy.

Supplementary Data 20: Results from leave-one-out meta-analyses examining associations between genetic risk scores (GRS) and FG and 2hG levels during and after pregnancy.