GWAS of Gestational Diabetes and Related Traits

Journal	Methods	Sample	Outcome(s)	Genome-wide Significant Associations (Trait: Gene(s))
Kwak et al., 2012 *Diabetes*	Two-stage genome-wide association analysis followed by meta-analysis of Stage 1 and Stage 2.	Cases: Pregnant women with GDM (N1=468, N2=931); Controls: Non-diabetic women (N1=1242, N2=783) Ethnicity: Korean	– GDM – Fasting glucose – Fasting insulin concentration – HOMA-IR – HOMA-B	– GDM: CDKAL1, MTNR1B – Fasting insulin concentration in GDM: CDKAL1, MTNR1B (Significant in joint analysis)
Hayes et al., 2013 *Diabetes*	Genome-wide association study with replication of top signals in three additional European ancestry cohorts.	Pregnant women (N = 4,437) Ethnicities: – European – Thai – Afro-Caucasian – Hispanic	– Fasting C-peptide (FCP) – Fasting plasma glucose (FPG) – 1-h plasma glucose (1HPG) – 2-h plasma glucose (2HPG)	– FCP: BACE2, PPP1R3B, GCKR – FPG: GCKR, G6PC2, PCSK1, protein phosphatase 1, PPP1R3B, MTNR1B – 1HPG: MTNR1B – 2HPG: HKDC1
Go et al., 2013 *Journal of Human Genetics*	Two-stage design with replication and meta-analysis combining stage 1 and 2 data. Subset of analysis on GDM.	GDM study cohort (N = 1710)	1-hPG	– GDM: C12orf51, OAS1 – (GDM, not significant: rs12229654, MYL2)

References (in order of relevance)

Kwak, S. H., Kim, S.-H., Cho, Y. M., Go, M. J., Cho, Y. S., Choi, S. H., … Park, K. S. (2012). A Genome-Wide Association Study of Gestational Diabetes Mellitus in Korean Women. *Diabetes*, *61*(2), 531–541. http://doi.org/10.2337/db11-1034

Hayes, M. G., Urbanek, M., Hivert, M.-F., Armstrong, L. L., Morrison, J., Guo, C., … Lowe, W. L. (2013). Identification of HKDC1 and BACE2 as Genes Influencing Glycemic Traits During Pregnancy Through Genome-Wide Association Studies. *Diabetes*, *62*(9), 3282–3291. http://doi.org/10.2337/db12-1692

Go, M. J., Hwang, J.-Y., Kim, Y. J., Hee Oh, J., Kim, Y.-J., Heon Kwak, S., … Lee, J.-Y. (2013). New susceptibility loci in MYL2, C12orf51 and OAS1 associated with 1-h plasma glucose as predisposing risk factors for type 2 diabetes in the Korean population. *Journal of Human Genetics*, *58*(6), 362–365. http://doi.org/10.1038/jhg.2013.14