

Supplementary Table 1: Placental transcriptome studies with fewer than five samples

Year	Accession ID	Platform	Type	Tissue/Cell	Sampling site	Total no.	Gestation	Purpose	Associated publications
Cellular characterisation and differentiation									
2010	NCBI GEO GSE20499	Affymetrix Human Genome U133 Plus 2.0 Array	Microarray	Sorted cell (flow cytometry)	Decidua	4	1 st trimester	Characterise decidual natural killer cells	(Kopcow et al. 2010)
2016	NCBI GEO GSE79940	Affymetrix Human Genome U133A Array; Affymetrix Human Genome U133B Array	Microarray	Sorted cell (flow cytometry)	Decidua	4	1 st trimester	Characterise decidual natural killer cells in early pregnancy	(Kopcow et al. 2010)
2016	NCBI GEO GSE85592	Affymetrix Human Transcriptome Array 2.0	Microarray	Sorted cell (flow cytometry)	Decidua	3	1 st trimester	Characterise decidual natural killer cells in early pregnancy	(Cavalli et al. 2016)
2017	NCBI GEO GSE104224	Affymetrix Human Gene 1.0 ST Array	Microarray	Sorted cell (flow cytometry)	Basal plate	4	3 rd trimester	Characterise immune cells in term pregnancy	(Costa et al. 2017)
2017	NCBI GEO GSE87725	Illumina HiSeq 2500 - mean sequencing depth ~30M	RNAseq	Tissue (microdissected syntroph oblast layer)	Chorionic villi	1	3 rd trimester	Characterise cell-cell interactions in term placenta	(Pavlicev et al. 2017)
2017	NCBI GEO GSE87720	Illumina HiSeq 2500 - median sequencing depth ~3.65M	RNAseq	Single-cell	Chorionic villi	2	3 rd trimester	Characterise cell-cell interactions in term placenta	(Pavlicev et al. 2017)
2017	NCBI GEO GSE87708	Illumina HiSeq 2500 - poly A+ selection - mean sequencing depth ~30M	RNAseq	Tissue	Chorionic villi	2	3 rd trimester	Characterise cell-cell interactions in term placenta	(Pavlicev et al. 2017)
2017	NCBI GEO	Illumina HiSeq 2500	RNAseq	Sorted cell	Decidua	3	1 st trimester	Characterise	(Zeng et al.

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	GSE97395	- poly A+ selection - mean sequencing depth ~35M		(flow cytometry)				decidual CD4+ T-cells in early pregnancy	(2017)
2018	NCBI GEO GSE97217	Affymetrix PrimeView Human Gene Expression Array	Microarray	Sorted cell (flow cytometry)	Decidua	2	1 st trimester	Phenotype subset of decidual natural killer cells	(Fu et al. 2017)
2018	NCBI GEO GSE89323	Illumina HiSeq 4000 - mean sequencing depth ~23M	RNAseq	Sorted cell (flow cytometry)	Decidua	3	1 st trimester	Phenotype subset of decidual macrophages	(Jiang et al. 2018)
2019	NCBI GEO GSE126530	Illumina NextSeq 500 - mean sequencing depth ~10M	RNAseq	Sorted cell (magnetic bead)	Chorionic villi	4	1 st trimester	Compare invasive and non-invasive trophoblast	(Vondra et al. 2019)
2019	NCBI GEO GSE90646	Affymetrix Human Gene 2.0 ST Array	Microarray	Sorted cell (flow cytometry)	Chorionic villi	2 (pooled)	1 st trimester	Characterise cytotrophoblast subpopulations	(Wong et al. 2019)
Gene expression variation and regulation									
2012	NCBI GEO GSE37901	Affymetrix Human Genome U133 Plus 2.0 Array	Microarray	Tissue	Whole placenta biopsy (basal plate + chorionic plate + chorionic villi)	4	2 nd trimester	Characterise mid-pregnancy transcriptome	(Uuskula et al. 2012) (extension of GSE22490)
2013	NCBI GEO GSE39776	Illumina HiSeq 2000 - mean sequencing depth ~0.66M	RNAseq	Tissue	Chorionic villi	2	3 rd trimester	Examine relationship of placental gene expression with methylation	(Schroeder et al. 2013)
2017	NCBI SRA SRP077553	Illumina HiSeq 2500 - mean sequencing depth ~30M	RNAseq	Tissue	Placenta biopsy (no details)	4	3 rd trimester	Establish global RNA profile of placenta	(Majewska et al. 2017; Majewska)

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					provided)				et al. 2018)
Gestational diabetes mellitus									
2010	NCBI GEO GSE19649	Illumina humanWG-6 V2.0 Expression Beadchip	Microarray	Tissue	Placenta biopsy (basal plate + chorionic villi)	4 (pooled) - 2 C - 2 GDM	3 rd trimester	GDM VS controls	(Zhao et al. 2011)

Abbreviations: C – controls; EBI – European Bioinformatics Institute; GDM – gestational diabetes mellitus; GEO – Gene Expression Omnibus; M – million reads; SRA – Sequence Read Archive