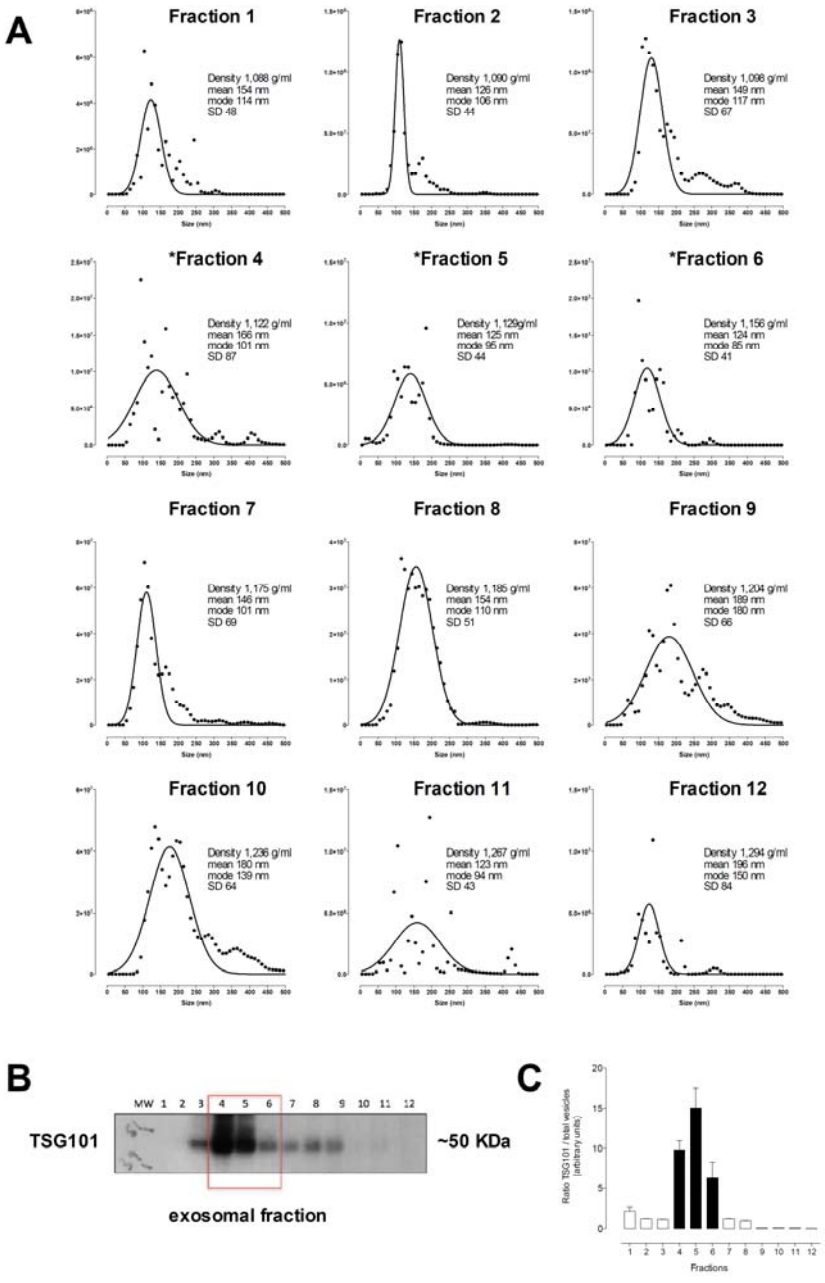
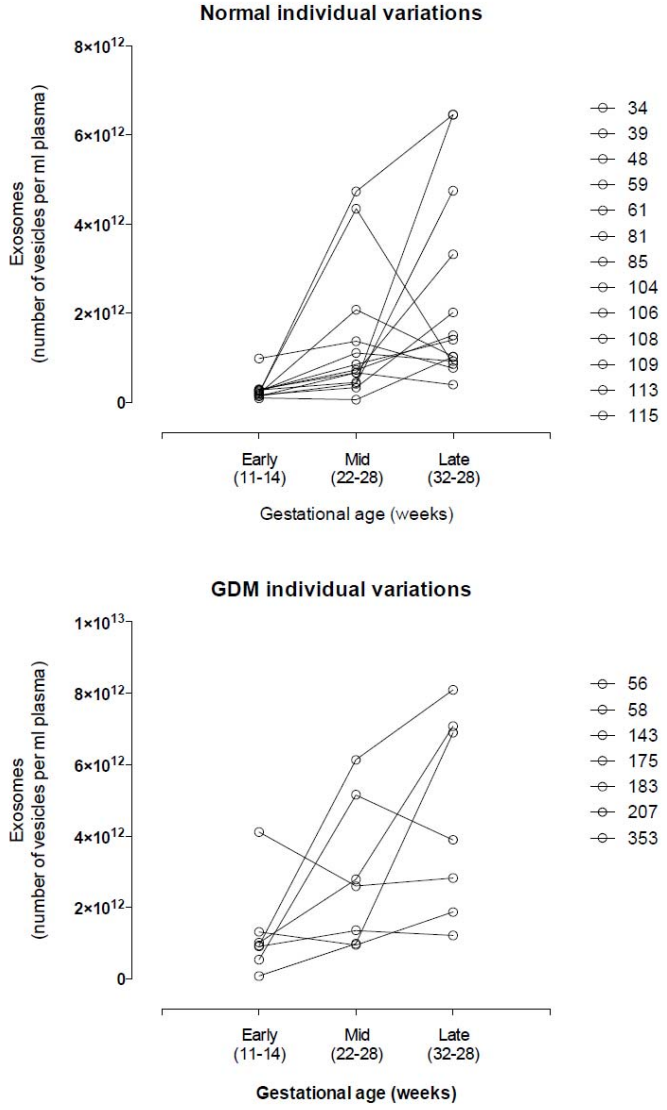
SUPPLEMENTARY DATA

**Supplementary Figure S1. Size distribution of the fractions after buoyant density gradient.** Exosomes were isolated from plasma by differential and buoyant density centrifugation and enriched using a discontinuous iodixanol gradient containing 40% (w/v), 20% (w/v), 10% (w/v) and 5% (w/v) iodixanol (solutions were made by diluting a stock solution of OptiPrep™ (60% (w/v) aqueous iodixanol from Sigma-Aldrich) and centrifuged at 100,000 g for 20 h. Fractions were collected manually from top to the bottom (with increasing density), diluted with PBS and centrifuged at 100,000 g for 2h at 4 $^{o}$C. (A) Representative vesicle size distribution using a NanoSight NS500 instrument of fraction 1 to fraction 12. (B) Representative Western blot for exosome enriched marker TSG101. (C) Densitometry of TSG101 normalized by number of vesicles. In A, *fractions 4-6 represent the exosomes vesicles. In C, black bars represent exosomes fractions.



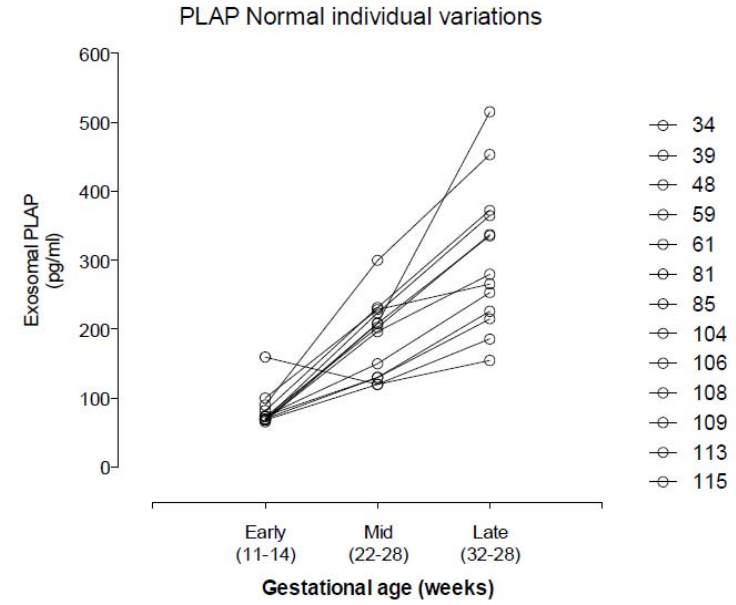
SUPPLEMENTARY DATA

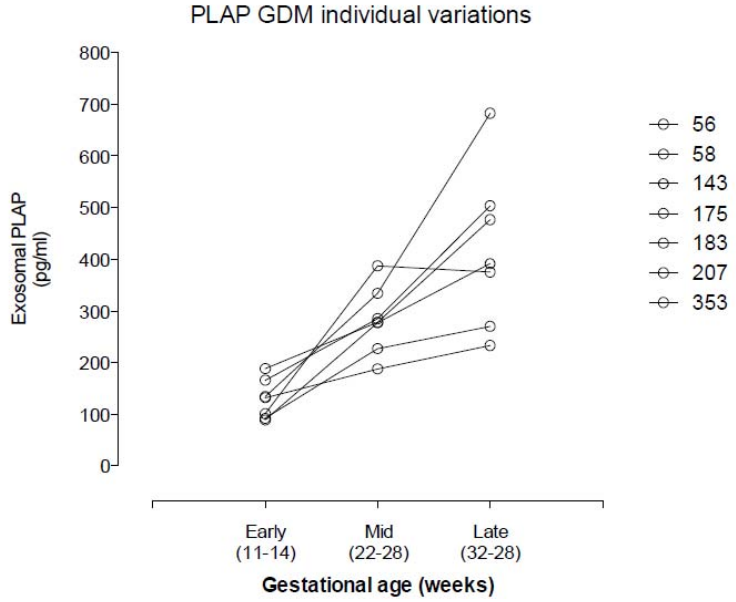
**Supplementary Figure S2. Exosome profiling across GDM pregnancy.** Enriched exosomal population (*i.e.* total number of exosome vesicles) were quantified in in peripheral plasma of pregnant women by ELISA. Individual variation in exosome number across normal (A) and GDM pregnancies (B).



SUPPLEMENTARY DATA

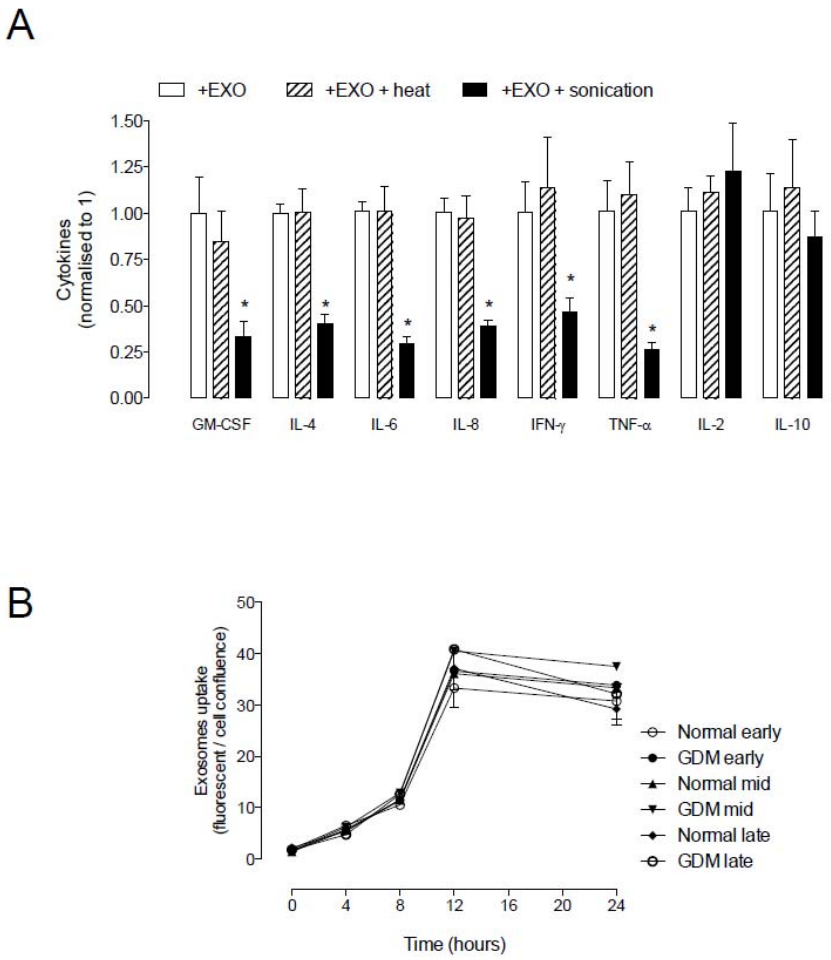
**Supplementary Figure S3. Placental exosome profiling across GDM pregnancy**. Individual variation in placental exosome across normal (A) and GDM pregnancies (B).



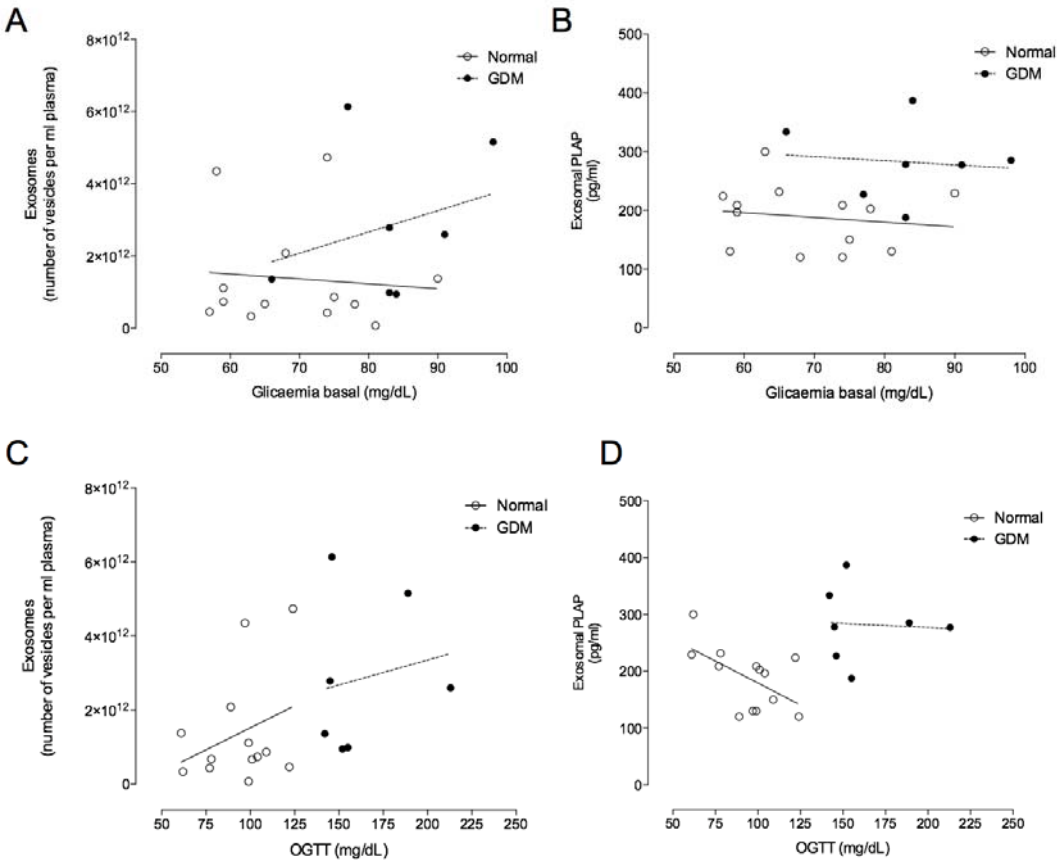
SUPPLEMENTARY DATA

**Supplementary Figure S4.** (A) Effect of exosomes on cytokines releases from endothelial cells. Exosome particles were subjected to heat inactivation (+heat) or sonication (+sonication) before exposure to endothelial cells. (B) Time-dependent uptake of exosomes using a real time imaging system analysis (The IncuCyte). Values are mean ± SEM. In A, *$p < 0.001$ versus all corresponding values.



SUPPLEMENTARY DATA

**Supplementary Figure S5. Relation between exosomes and glucose concentration.** We used multivariate linear regression to evaluate the relationship between exosomes and glucose concentration into maternal circulation in normal (white circles) and GDM (black circles) pregnancies. (A) Relationship between total exosomes and glycaemia basal. (B) Relationship between exosomal PLAP and glycaemia basal. (C) Relationship between total exosomes and OGTT levels. (D) Relationship between exosomal PLAP and OGTT levels. Linear correlation for normal (-) and GDM (--).



SUPPLEMENTARY DATA

**Supplementary Figure S6.** (A) The predicted likelihood (posterior predictive probability value) that a woman developed gestational diabetes. The classification model was base on both quantification of exosomes and clinical data, and developed using LogitBoost regression analysis. (B) ROC curve of exosomes for predicting GDM.