

### Appendix 3. Top 10 Upregulated Gene Transcripts in Second Trimester Amniotic Fluid

Symbol	Gene Name	Gene Function	Tissue Specificity*	Fold Change	Benjamini-Hochberg <i>P</i>
<i>RBP2</i>	retinol binding protein 2, cellular	Intracellular transport of retinol	NA	1215.2	$< 1 \times 10^{-15}$
<i>APOC3</i>	apolipoprotein C-III	Apolipoprotein C-III is a very low density lipoprotein (VLDL) protein. APOC3 inhibits lipoprotein lipase and hepatic lipase; it is thought to delay catabolism of triglyceride-rich particles.	Liver > 30 MoM	754.7	$< 1 \times 10^{-15}$
<i>FABP1</i>	fatty acid binding protein 1, liver	This gene encodes the fatty acid binding protein found in liver. FABP's roles include fatty acid uptake, transport, and metabolism	Fetal liver, adult colon, small intestine > 10 MoM	653.6	$< 1 \times 10^{-15}$
<i>APOA2</i>	apolipoprotein A-II	This gene encodes apolipoprotein A-II, which is the second most abundant protein of the high density lipoprotein particles.	Fetal liver, adult liver > 30 MoM	461.0	$< 1 \times 10^{-15}$
<i>ANXA13</i>	annexin A13	Annexins play a role in the regulation of cellular growth and in signal transduction pathways. This gene is associated with undifferentiated, proliferating endothelial cells and differentiated villus enterocytes.	Small intestine > 10 MoM	411.9	$< 8.12 \times 10^{-10}$
<i>SULT2A1</i>	sulfotransferase family, cytosolic, 2A, dehydroepiandrosterone preferring, member 1	Catalyzes the sulfation of steroids and bile acids in the liver and adrenal glands	Adrenal gland > 10 MoM	354.5	$< 1 \times 10^{-15}$
<i>CDHR5</i>	cadherin-related family member 5	Acts as a calcium-dependent cell adhesion protein	Liver > 30 MoM	304.8	$< 1 \times 10^{-15}$

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The authors provided this information as a supplement to their article.

<i>DAB1</i>	disabled homolog 1 (Drosophila)	Adapter molecule functioning in neural development	Not organ specific	298.2	$1.0 \times 10^{-4}$
<i>MUC13</i>	mucin 13, cell surface associated	Epithelial and hemopoietic transmembrane mucin that may play a role in cell signaling	Pancreas, small intestine > 10 MoM	237.0	$< 1 \times 10^{-15}$
<i>APOC2</i>	apolipoprotein C-II	Component of the very low density lipoprotein fraction in plasma; activator of several triacylglycerol lipases.	Adult liver > 30 MoM; fetal liver > 10 MoM	206.3	$< 1 \times 10^{-15}$

MoM, multiples of the median; NA, not applicable.

Gene functions obtained from public databases (UniProtKB available at [www.uniprot.org](http://www.uniprot.org) and Entrez Gene available at [www.ncbi.nlm.nih.gov/gene](http://www.ncbi.nlm.nih.gov/gene)). The information has been modified from the source due to space limitations.

\*Tissue specificity as mapped in the BioGPS gene expression atlas (<http://biogps.gnf.org>).

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