

Appendix 2. Supplemental Tables

Supplemental Table 1. Queries Used by SciMiner to Identify Relevant Articles for Curation

Preeclampsia Search Queries

Preeclampsia AND gene expression analysis
HELLP AND genetics
Preeclampsia AND genetics
Pre-eclampsia AND genetics
Pre-eclampsia AND gene expression analysis
Preeclampsia AND RNA
Pre-eclampsia AND RNA
Preeclampsia AND gene
Pre-eclampsia AND gene
Preeclampsia AND protein expression
Pre-eclampsia AND protein expression

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

Supplemental Table 2. Journals With Largest Number of Accepted Articles in Database

Journal Name	Number of Accepted Articles
1 Placenta	59
2 American journal of obstetrics and gynecology	58
3 Zhonghua fu chan ke za zhi	36
4 Hypertension	34
5 The Journal of clinical endocrinology and metabolism	32
6 Molecular human reproduction	29
7 American journal of reproductive immunology	26
8 Reproductive sciences	23
9 Hypertension in pregnancy	22
10 Acta obstetrica et gynecologica Scandinavica	22
11 Obstetrics and gynecology	21
12 European journal of obstetrics, gynecology, and reproductive biology	20
13 The journal of maternal-fetal & neonatal medicine	18
14 The journal of obstetrics and gynaecology research	17
15 Journal of reproductive immunology	14

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

Supplemental Table 3. Maternal and Fetal Genes Associated With Phenotypes of Preeclampsia Sorted by Number of Articles in Which Gene Was Retrieved (Cluster Figure 1)

Maternal PE	Maternal PE - # of articles	Fetal PE	Fetal PE - # of articles	Maternal sPE	Maternal sPE - # of articles	Fetal sPE	Fetal sPE - # of articles
NOS2A	9	NOS3	7	AHSG	2	F2	2
CRH	7	IGF1	5	NPPB	2	IL15	2
IL2	5	SOD1	5	A2M	1	NDRG1	2
MMP9	4	CRH	4	AMBP	1	SERPINE1	2
RASSF1	4	ERVWE1	4	APCS	1	ACVR1B	1
SELP	4	HMOX1	4	AQP9	1	ACVR2B	1
SOD1	4	HSPA1A	4	C4A	1	ADORA3	1
AGTR2	3	NOS2A	4	CTGF	1	CTGF	1
EPHX1	3	SELP	4	ESR1	1	F3	1
FGA	3	CALCA	3	FOSB	1	FSTL3	1
MMP2	3	CDH5	3	FSTL3	1	GLRX	1
TNFRSF1A	3	GPX1	3	GOT1	1	IGFBP5	1
ANGPT2	2	HGF	3	GOT2	1	IL1A	1
ANXA5	2	HLA-C	3	GPT2	1	LGALS1	1
CALCA	2	INHA	3	HADH	1	MIRN155	1
CAT	2	KDR	3	HADHA	1	NFE2L2	1
CD40	2	LEP	3	HBA1	1	OSM	1
CD46	2	MAPK1	3	HSPA1B	1	PAPPA2	1
CD63	2	TLR4	3	HSPA1L	1	PRDX3	1
CR1	2	AR	2	HSPA4	1	SMAD2	1
CYP11B2	2	CASP3	2	IGFALS	1	SMAD7	1
EDNRA	2	CAT	2	IL8RA	1	TAP1	1
EDNRB	2	CDH1	2	JUNB	1	TAP2	1
EPAS1	2	COMT	2	KLRK1	1	VASH1	1
ERAP2	2	EGLN3	2	LDHB	1	ZFYVE9	1
ERVWE1	2	EPAS1	2	LDHC	1		
FOXP3	2	FGA	2	LDHD	1		
GPX1	2	GDF15	2	MIRN155	1		
HSF1	2	HSPB1	2	NR3C1	1		
IL1B	2	ICAM3	2	PAPPA2	1		
INHBE	2	IFNG	2	PRF1	1		
ITGA4	2	IFNGR1	2	PRKCA	1		
ITGAL	2	IGFBP3	2	RAGE	1		

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

ITGAX	2	IL1B	2	RELA	1
KDR	2	LGALS13	2	SERPINA1	1
KIR2DL2	2	LIFR	2	TAF1	1
KIR2DS1	2	MBL2	2	TAP1	1
LPL	2	MMP1	2	TAP2	1
MBL2	2	NOS1	2		
PPBP	2	NOV	2		
PTGS1	2	PECAM1	2		
PTGS2	2	PPARA	2		
RETN	2	PTGS2	2		
SELL	2	SOD2	2		
SOD3	2	SOD3	2		
SRY	2	TAC3	2		
TIMP1	2	TP53	2		
ABCA1	1	UCN	2		
ABCG1	1	A1BG	1		
ACVR2A	1	A2M	1		
ADIPOR1	1	ABCA1	1		
ADIPOR2	1	ABCA4	1		
ADORA1	1	ABCB1	1		
ADORA2A	1	ABCG2	1		
ADORA2B	1	ACE2	1		
ADORA3	1	ACTA2	1		
ADRB3	1	ACTG1	1		
AGER	1	ACVR1C	1		
AGTRL1	1	ADIPOQ	1		
APLN	1	ADIPOR1	1		
APOC3	1	ADIPOR2	1		
AR	1	ADORA2A	1		
ARG2	1	AGTRL1	1		
B2M	1	AHSA1	1		
BDKRB2	1	AHSG	1		
C3	1	AKR1B1	1		
C4orf45	1	ALB	1		
C5AR1	1	ANGPT1	1		
C9orf11	1	ANGPT2	1		
CALCRL	1	APLN	1		
CALR	1	APOE	1		
CD163	1	AQP9	1		

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

CD19	1	ARG2	1
CD209	1	BCL2	1
CD55	1	BDKRB2	1
CD58	1	BGN	1
CD59	1	BOK	1
CD68	1	C19orf33	1
CD8A	1	CALCRL	1
CDH1	1	CD36	1
CDKN1A	1	CD44	1
CEACAM8	1	CFTR	1
CGA	1	CGA	1
CNR1	1	CGB	1
CPB2	1	CLDN1	1
CRHR1	1	CLDN3	1
CST3	1	CLDN5	1
CYBB	1	CLU	1
DIABLO	1	COL1A1	1
EGF	1	CRHR2	1
EGLN3	1	CSH1	1
ESR2	1	CTRL	1
ETFDH	1	CTSD	1
F11	1	CTSL1	1
F2R	1	CTSL2	1
F7	1	CUL4A	1
FAM198B	1	CUL7	1
FASLG	1	CXCL1	1
FCGR3A	1	CXCL10	1
FGB	1	CYP27B1	1
FGG	1	DARC	1
FNIP2	1	DCN	1
FSTL5	1	DDAH1	1
FUT3	1	DIABLO	1
GADD45A	1	DLX4	1
GAPDH	1	EDNRA	1
GCM1	1	EGLN1	1
GNB3	1	EGLN2	1
GP1BA	1	EPO	1
GP9	1	ERAP2	1
GPX4	1	F10	1

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

GTDC1	1	F2R	1
H19	1	FGB	1
HLA-A	1	FGF2	1
HLA-B	1	FGG	1
HLA-C	1	FUT3	1
HLA-DQA1	1	GPX4	1
HLA-DRB1	1	GSR	1
HLA-DRB3	1	GSTCD	1
HLA-DRB4	1	GTF2A1	1
HLA-DRB5	1	HIF1AN	1
HPX	1	HLA-DQA1	1
HTRA3	1	HLA-DRB1	1
ICAM3	1	HLA-DRB4	1
ICOS	1	HMOX2	1
IL11	1	IFNGR2	1
IL18	1	IL12A	1
IL1RN	1	IL2RA	1
IL4R	1	IL4	1
IL6ST	1	IL6R	1
ITGB1	1	ILK	1
ITGB2	1	ITGA4	1
ITGB3	1	ITGA5	1
KIR2DL5A	1	ITGAX	1
KIR2DL5B	1	KCNE1L	1
KIR2DS2	1	KCNQ3	1
KIR2DS3	1	KCNQ5	1
KISS1	1	KIR2DL1	1
KRT18	1	KIR2DL2	1
KRT8	1	KIR2DS1	1
LGALS1	1	KIR2DS2	1
MAP2K3	1	KIR3DS1	1
MAPK14	1	LDHA	1
MMP1	1	LEPR	1
MMP8	1	LIPC	1
MPO	1	LTF	1
NAMPT	1	MAPK3	1
NAT2	1	MAS1	1
NCRNA00032	1	MATN2	1
NFKBIA	1	MCAM	1

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

NOD2	1	MET	1
NOX1	1	MIR128-1	1
NPPA	1	MIR133B	1
PDGFA	1	MIR182	1
PECAM1	1	MIR21	1
PIBF1	1	MIR302C	1
PON1	1	MIRNLET7B	1
PPID	1	MKI67	1
PRCP	1	MMP3	1
PROC	1	MMP7	1
PROCR	1	MTHFR	1
PROZ	1	NCAM1	1
PTGIS	1	NFKB2	1
PTH	1	NLRP3	1
PTHLH	1	NODAL	1
RAMP1	1	NOSTRIN	1
RAPGEF2	1	OCLN	1
RHD	1	P2RX4	1
ROCK2	1	P4HB	1
RORC	1	PAFAH1B1	1
RXFP1	1	PGAM1	1
SF1	1	PLAT	1
SLC25A20	1	PML	1
SOCS3	1	PPARG	1
SOD2	1	PRDX6	1
SPINK1	1	PRKCA	1
STOX1	1	PROC	1
TAT	1	PSMA1	1
TBX21	1	PTHLH	1
TBXAS1	1	RAMP1	1
TEK	1	RHOA	1
TIE1	1	RXRA	1
TLR4	1	S100A6	1
TMEM144	1	S100B	1
TNFRSF10B	1	SERPINA3	1
TNFRSF1B	1	SIAE	1
TNFSF13B	1	SIAH1	1
TRB	1	SIAH2	1
TSPY1	1	SIGLEC6	1



Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

TXN	1	SLC22A5	1
UCN	1	SLC25A20	1
VHL	1	SLC29A1	1
XDH	1	SLC29A2	1
ZCCHC7	1	SLC9A1	1
		SP1	1
		STOX2	1
		TBXAS1	1
		TGFB3	1
		TGFBR1	1
		TH	1
		TLR2	1
		TPI1	1
		VCAN	1
		VEGFC	1

Maternal PE and sPE	Maternal PE and sPE - # of articles	Fetal PE and sPE	Fetal PE and sPE - # of articles	Maternal eclampsia	Maternal eclampsia - # of articles	Fetal eclampsia	Fetal eclampsia - # of articles
EDN1	10	FLT1	20	ACE	1	ACE	1
SERPINE1	10	ENG	7	AGT	1	AGT	1
IFNG	8	EDN1	5	AGTR1	1	AGTR1	1
HSPA1A	7	IL10	5	APC	1	HLA-G	1
INHA	6	IGFBP1	4	CLU	1	REN	1
FAS	5	MMP2	4	HLA-G	1	VEGFA	1
INHBA	5	NFKB1	4	IFNG	1		
ITGAM	5	TIMP2	4	REN	1		
CD40LG	4	ADM	3	TERT	1		
ENG	4	CYR61	3	TNF	1		
FLT1	4	HTRA1	3	VEGFA	1		
APOA1	3	IL8	3				
CGB	3	KISS1	3				
GSTP1	3	MMP9	3				
IGF1	3	SERPINB2	3				
NOS1	3	TIMP1	3				
PAPPA	3	HLA-G	2				
SERPINC1	3	INHBA	2				
VEGFA	3	MAOA	2				
ADIPOQ	2	MCL1	2				

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

AGT	2	PGF	2
AGTR1	2	TFPI	2
ALB	2	TFPI2	2
APOE	2	TNF	2
CTLA4	2	ACE	1
FN1	2	AGT	1
GPT	2	AGTR1	1
HLA-G	2	CST3	1
HP	2	DYSF	1
ICAM1	2	EGR1	1
IL16	2	F5	1
IL1A	2	FAS	1
INDO	2	FASLG	1
LDHA	2	GCM1	1
LEP	2	HBB	1
LEPR	2	HIF1A	1
LGALS13	2	ICAM1	1
MTHFR	2	IL16	1
NFKB1	2	IL6	1
SERPINB2	2	LDLR	1
TFPI	2	MAP1LC3A	1
TFPI2	2	MT-CO1	1
TGFB1	2	REN	1
THBD	2	SELE	1
VCAM1	2	TERT	1
ABO	1	TGFB1	1
ACE	1	TIMP4	1
ADM	1	TXN	1
CCL2	1	VCAM1	1
CCR2	1	VEGFA	1
CD14	1	VLDLR	1
CD247	1	VWF	1
CD74	1		
CLU	1		
COL18A1	1		
COMT	1		
CRP	1		
CSAD	1		
CYP17A1	1		

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

DRD4	1
F2	1
F5	1
HBB	1
HIF1A	1
HMOX1	1
HOXA9	1
HSP90AB1	1
IGF2	1
IGFBP1	1
IL10	1
IL12A	1
IL15	1
IL4	1
IL5	1
IL6	1
IL8	1
KIR3DL2	1
KLRC1	1
MIR210	1
MIRN210	1
NOS3	1
PGF	1
PLAC1	1
PLAT	1
PTX3	1
REN	1
RHOA	1
SELE	1
SLC4A1	1
SLC9A3	1
SLCO4C1	1
TERT	1
TNF	1
VWF	1



Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

Supplemental Table 4. Maternal and Fetal Genes Associated With Concurrent Conditions (Fetal Growth Restriction, Gestational Hypertension, Hemolysis, Elevated Liver Enzymes, Low Platelets Syndrome) (Cluster Figure 2)

Maternal Genes - IUGR	Fetal Genes - IUGR	Maternal Genes - GH	Fetal Genes - GH	Maternal Genes - HELLP	Fetal Genes - HELLP
AGT	AGT	AGT	CDH1	AGT	LGALS13
CRH	BCL2	F11	F5	CRP	MBL2
ENG	CASP3	F5	TIMP2	CSAD	MKI67
F5	EPO	ICAM1		ENG	TP53
FLT1	FLT1	UCN		F5	UCN
IFNG	HMOX2	MTHFR		FGA	
IGF1	HSPA1A	VCAM1		FGB	
IL4	HTRA1	VEGFA		FGG	
IL6	ICAM3	NOS3		FLT1	
IL8	IFNG	PGF		GOT1	
INHA	IGF1	PROC		GOT2	
LEP	IL4	SERPINE1		HMOX1	
LGALS13	IL6	SLC4A1		HSPA1A	
TNF	IL8	SLC9A3		HSPA4	
MBL2	MBL2	SLCO4C1		IL6	
UCN	NDRG1			LGALS13	
MTHFR	NFKB1			MBL2	
VEGFA	NOS2A			MMP8	
NAMPT	NOS3			MTHFR	
PGF	PGF			NR3C1	
PTX3	PPARA			PGF	
RASSF1	PPARG			PLAC1	
SERPINB2	RXRA			PLAT	
	S100B			SERPINB2	
	SERPINA3			SERPINE1	
	SERPINB2			TERT	
	TFPI2			TIMP1	
	TNF			TLR4	
	TP53				
	TXN				
	UCN				
	VEGFA				

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

Supplemental Table 5. Maternal and Fetal Genes Associated With Early-Onset and Late-Onset Preeclampsia (Cluster Figure 3)

Gene	Early Onset	Late Onset	Maternal [1=maternal]	Fetal [1=fetal]
ACTA2	YES	NO	0	1
CYR61	YES	NO	0	1
FLT1	YES	NO	0	1
NOV	YES	NO	0	1
TGFBR1	YES	NO	0	1
ABO	YES	NO	1	0
HADHA	YES	NO	1	0
NOD2	YES	NO	1	0
TEK	YES	NO	1	0
THBD	YES	NO	1	0
ABCA1	YES	NO	1	1
CRH	YES	NO	1	1
ENG	YES	NO	1	1
FGA	YES	NO	1	1
FGB	YES	NO	1	1
FGG	YES	NO	1	1
IL10	YES	NO	1	1
IL6	YES	NO	1	1
PAPPA2	YES	NO	1	1
PGF	YES	NO	1	1
TGFB1	YES	NO	1	1
TLR4	YES	NO	1	1
VEGFA	YES	NO	1	1
TEK	NO	YES	1	0
SOD1	NO	YES	1	1
TNF	NO	YES	1	1
CDH5	YES	YES	0	1
ACE	YES	YES	1	1
ENG	YES	YES	1	1
KDR	YES	YES	1	1
VEGFA	YES	YES	1	1

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

Supplemental Table 6. List of Gene Ontology Groups for Biological Processes for Each Cluster in Figure 4

GO term ID	Biological Process	Cluster ID
<i>Maternal and fetal GO terms for biological processes associated with Preeclampsia only</i>		A
GO:0030154	cell differentiation	
GO:0048869	cellular developmental process	
<i>Fetal GO terms for biological processes associated with Preeclampsia only</i>		B
GO:0001666	response to hypoxia	
GO:0007154	cell communication	
GO:0007275	multicellular organismal development	
GO:0008219	cell death	
GO:0008283	cell proliferation	
GO:0012501	programmed cell death	
GO:0016265	death	
GO:0042127	regulation of cell proliferation	
GO:0043065	positive regulation of apoptotic process	
GO:0043067	regulation of programmed cell death	
GO:0048468	cell development	
GO:0048513	organ development	
GO:0048518	positive regulation of biological process	
GO:0048522	positive regulation of cellular process	
GO:0048731	system development	
<i>Fetal GO terms for biological processes associated with both Preeclampsia and Severe Preeclampsia</i>		C
GO:0009653	anatomical structure morphogenesis	
GO:0048856	anatomical structure development	
GO:0007610	behavior	
GO:0007611	learning or memory	
GO:0008203	cholesterol metabolic process	
<i>Fetal GO terms for biological processes associated with Severe Preeclampsia only</i>		D
GO:0001558	regulation of cell growth	
GO:0007167	enzyme linked receptor protein signaling pathway	
GO:0007178	transmembrane receptor protein serine/threonine kinase signaling pathway	
GO:0007179	transforming growth factor beta receptor signaling pathway	
GO:0032924	activin receptor signaling pathway	
GO:0032925	regulation of activin receptor signaling pathway	
GO:0032927	positive regulation of activin receptor signaling pathway	
GO:0003002	regionalization	
GO:0008361	regulation of cell size	
GO:0009952	anterior/posterior pattern specification	
GO:0016049	cell growth	
GO:0032989	cellular component morphogenesis	

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

GO:0040008 regulation of growth
 GO:0042508 tyrosine phosphorylation of Stat1 protein
 GO:0048266 behavioral response to pain
 GO:0048523 negative regulation of cellular process
 GO:0050789 regulation of biological process
 GO:0050794 regulation of cellular process

Maternal GO terms for biological processes associated with Severe Preeclampsia only	E
--	----------

GO:0001906 cell killing
 GO:0002252 immune effector process
 GO:0002526 acute inflammatory response
 GO:0002682 regulation of immune system process
 GO:0006531 aspartate metabolic process
 GO:0006533 aspartate catabolic process
 GO:0009068 aspartate family amino acid catabolic process
 GO:0050776 regulation of immune response
 GO:0051239 regulation of multicellular organismal process

Maternal GO terms for biological processes associated with Preeclampsia and Severe Preeclampsia	F
--	----------

GO:0006952 defense response
 GO:0006954 inflammatory response
 GO:0006955 immune response
 GO:0009605 response to external stimulus
 GO:0009611 response to wounding
 GO:0002237 response to molecule of bacterial origin
 GO:0022414 reproductive process
 GO:0045428 regulation of nitric oxide biosynthetic process
 GO:0045429 positive regulation of nitric oxide biosynthetic process
 GO:0048878 chemical homeostasis
 GO:0050801 ion homeostasis
 GO:0051704 multi-organism process

Maternal GO terms for biological processes associated with Preeclampsia only	G
---	----------

GO:0002376 immune system process
 GO:0007166 cell surface receptor signaling pathway
 GO:0007596 blood coagulation
 GO:0007599 hemostasis
 GO:0042060 wound healing
 GO:0050817 coagulation
 GO:0050878 regulation of body fluid levels

Maternal and/or fetal GO terms for biological processes associated with Preeclampsia and/or Severe Preeclampsia	H
--	----------

GO:0006950 response to stress
 GO:0032501 multicellular organismal process

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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

GO:0032502 developmental process
GO:0042221 response to chemical stimulus
GO:0065007 biological regulation
GO:0065008 regulation of biological quality

The ID of the biological process associated with each cluster are listed as follows: **(A)** Maternal and fetal sources - preeclampsia; **(B)** Fetal source - preeclampsia only; **(C)** Fetal source - severe preeclampsia and preeclampsia; **(D)** Fetal source - severe preeclampsia only; **(E)** Maternal source - severe preeclampsia only; **(F)** Maternal source - severe preeclampsia and preeclampsia; **(G)** Maternal source - preeclampsia; **(H)** Maternal and/or fetal sources - severe preeclampsia and/or preeclampsia.

Triche EW, Uzun A, DeWan AT, Kurihara I, Liu J, Occhiogrosso R, et al. Bioinformatic approach to the genetics of preeclampsia. *Obstet Gynecol* 2014;123.

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