Table S15. Ovarian cancer modules with enriched pathways in KEGG.

Module ID	m	k	x	Gene Ontology	p-value	Genes	p-value
2	218	60	8	Cytokine Cytokine Receptor Interaction	1.16E-05	CXCL13, LTB, CXCL11, IL18, CXCL9, CD27, CXCL10, CCR5	7.16E-04
2	156	60	10	Chemokine Signaling Pathway	4.31E-09	CXCL13, CXCL11, CXCL9, VAV1, CXCL10, HCK, DOCK2, CCR5, LYN, FGR	8.02E-07
2	116	60	4	Cell Adhesion Molecules Cams	2.63E-03	ICOS, SIGLEC1, ITGB2, CD4	4.45E-02
2	90	60	4	Toll Like Receptor Signaling Pathway	1.03E-03	CXCL11, CXCL9, CXCL10, SPP1	1.92E-02
2	42	60	4	Cytosolic Dna Sensing Pathway	5.41E-05	IL18, CXCL10, AIM2, CASP1	2.52E-03
2	108	60	5	Natural Killer Cell Mediated Cytotoxicity	1.95E-04	VAV1, LCP2, ITGB2, TYROBP, LCK	6.05E-03
2	103	60	5	T Cell Receptor Signaling Pathway	1.56E-04	ICOS, VAV1, LCP2, CD4, LCK	5.81E-03
2	68	60	4	B Cell Receptor Signaling Pathway	3.57E-04	BLNK, VAV1, BTK, LYN	9.50E-03
2	72	60	4	Fc Epsilon Ri Signaling Pathway	4.45E-04	VAV1, LCP2, BTK, LYN	1.03E-02
2	84	60	4	Fc Gamma R Mediated Phagocytosis	7.98E-04	VAV1, HCK, DOCK2, LYN	1.65E-02
2	33	60	5	Primary Immunodeficiency	5.53E-07	BLNK, ICOS, BTK, CD4, LCK	5.14E-05
3	32	35	4	Dna Replication	2.03E-06	MCM2, MCM4, POLA2, MCM7	1.89E-04
3	111	35	11	Cell Cycle	0.00E+00	CCNE2, PLK1, MCM2, E2F1, CDC6, MCM4, BUB1, TFDP2, CDK2, MCM7, CCNB2	0.00E+00
3	92	35	5	Oocyte Meiosis	6.32E-06	CCNE2, PLK1, BUB1, CDK2, CCNB2	3.92E-04
3	60	35	3	P53 Signaling Pathway	6.87E-04	CCNE2, CDK2, CCNB2	2.56E-02
3	73	35	4	Progesterone Mediated Oocyte Maturation	5.65E-05	PLK1, BUB1, CDK2, CCNB2	2.62E-03
6	32	34	8	Dna Replication	3.66E-14	POLE2, MCM4, MCM6, RFC5, PRIM1, FEN1, MCM2, PCNA	6.81E-12
6	31	34	4	Base Excision Repair	1.58E-06	POLE2, FEN1, PCNA, PARP2	9.79E-05
6	41	34	3	Nucleotide Excision Repair	2.04E-04	POLE2, RFC5, PCNA	7.58E-03
6	23	34	3	Mismatch Repair	3.50E-05	RFC5, MSH6, PCNA	1.63E-03
6	111	34	10	Cell Cycle	3.20E-13	CHEK1, CDC7, CCNE2, MCM4, CDK2, MCM6, CDC25A, MCM2, PCNA, BUB1	2.97E-11
6	60	34	3	P53 Signaling Pathway	6.30E-04	CHEK1, CCNE2, CDK2	1.95E-02
6	73	34	3	Progesterone Mediated Oocyte Maturation	1.12E-03	CDK2, CDC25A, BUB1	2.97E-02
8	78	39	4	Tgf Beta Signaling Pathway	1.13E-04	INHBA, COMP, THBS2, THBS1	6.99E-03
8	183	39	11	Focal Adhesion	8.60E-12	MYLK, COMP, ITGB1, THBS2, THBS1, COL3A1, COL1A1, FN1, PDGFRB, COL1A2, ITGA5	8.00E-10
8	78	39	9	Ecm Receptor Interaction	2.33E-12	COMP, ITGB1, THBS2, THBS1, COL3A1, COL1A1, FN1, COL1A2, ITGA5	4.33E-10

8	65	39	3	Complement And Coagulation Cascades	1.19E-03	SERPINE1, PLAU, PLAUR	4.44E-02
8	182	39	5	Regulation Of Actin Cytoskeleton	2.83E-04	MYLK, ITGB1, FN1, PDGFRB, ITGA5	1.32E-02
12	43	33	3	Rna Degradation	2.15E-04	EXOSC5, LSM2, LSM3	1.06E-02
12	32	33	4	Dna Replication	1.59E-06	PRIM1, RFC5, FEN1, MCM2	2.96E-04
12	98	33	4	Spliceosome	1.41E-04	SNRPE, LSM2, CDC5L, LSM3	1.06E-02
12	111	33	4	Cell Cycle	2.28E-04	E2F3, MCM2, STAG2, TFDP2	1.06E-02
13	32	78	4	Dna Replication	5.10E-05	POLE2, MCM7, PCNA, MCM6	4.75E-03
13	111	78	15	Cell Cycle	3.29E-14	BUB1, CCNE2, CDC6, TFDP2, HDAC1, MCM7, ORC2L, PLK1, DBF4, PCNA, CHEK1, MCM6, ORC5L, ORC1L, BUB3	6.11E-12
18	32	31	7	Dna Replication	1.15E-12	MCM4, MCM6, RFC5, MCM3, MCM2, FEN1, MCM7	2.14E-10
18	111	31	8	Cell Cycle	2.67E-10	CHEK1, CCNE2, MCM4, MCM6, MCM3, MCM2, MCM7, CDC7	2.48E-08
20	111	44	8	Cell Cycle	5.43E-09	BUB1, PLK1, CCNA2, MAD2L1, CCNB1, BUB1B, CCNB2, CDC20	1.01E-06
20	92	44	7	Oocyte Meiosis	3.67E-08	BUB1, PLK1, MAD2L1, CCNB1, CCNB2, CDC20, AURKA	3.41E-06
20	73	44	6	Progesterone Mediated Oocyte Maturation	2.37E-07	BUB1, PLK1, CCNA2, MAD2L1, CCNB1, CCNB2	1.47E-05
21	218	30	8	Cytokine Cytokine Receptor Interaction	4.22E-08	CXCL13, CXCL11, CXCL9, CD27, CCR5, IL2RG, IL2RB, CCR1	3.92E-06
21	156	30	8	Chemokine Signaling Pathway	3.05E-09	CXCL13, CXCL11, CXCL9, CCR5, ITK, CCR1, DOCK2, HCK	5.66E-07
21	103	30	4	T Cell Receptor Signaling Pathway	1.17E-04	ICOS, LCP2, ITK, LCK	5.42E-03
21	33	30	4	Primary Immunodeficiency	1.22E-06	ICOS, IL2RG, LCK, BTK	7.55E-05
22	183	27	8	Focal Adhesion	4.23E-09	COL5A3, COL1A1, COL6A1, COL5A1, THBS2, FN1, ITGA5, COL3A1	3.94E-07
22	78	27	8	Ecm Receptor Interaction	4.31E-12	COL5A3, COL1A1, COL6A1, COL5A1, THBS2, FN1, ITGA5, COL3A1	8.02E-10
25	32	29	7	Dna Replication	6.94E-13	POLE2, MCM2, MCM6, PCNA, FEN1, MCM7, MCM4	1.29E-10
25	31	29	3	Base Excision Repair	5.39E-05	POLE2, PCNA, FEN1	3.34E-03
25	111	29	9	Cell Cycle	2.97E-12	CHEK1, CDC7, CCNE2, MCM2, MCM6, PCNA, MCM7, CCNB2, MCM4	2.76E-10
25	92	29	3	Oocyte Meiosis	1.37E-03	FBXO5, CCNE2, CCNB2	4.26E-02
25	60	29	3	P53 Signaling Pathway	3.92E-04	CHEK1, CCNE2, CCNB2	1.82E-02
26	32	44	6	Dna Replication	1.41E-09	FEN1, PCNA, MCM4, RPA3, RFC5, RFC4	2.62E-07
26	41	44	4	Nucleotide Excision Repair	1.42E-05	PCNA, RPA3, RFC5, RFC4	6.62E-04
26	23	44	4	Mismatch Repair	1.30E-06	PCNA, RPA3, RFC5, RFC4	8.09E-05

26	111	44	8	Cell Cycle	5.43E-09	PLK1, CCNA2, MAD2L1, PCNA, CCNB1, MCM4, CHEK1, CDC7	5.05E-07
26	92	44	4	Oocyte Meiosis	3.43E-04	FBXO5, PLK1, MAD2L1, CCNB1	1.06E-02
26	73	44	4	Progesterone Mediated Oocyte Maturation	1.40E-04	PLK1, CCNA2, MAD2L1, CCNB1	5.22E-03
27	78	55	5	Tgf Beta Signaling Pathway	2.71E-05	INHBA, DCN, COMP, THBS2, THBS1	1.68E-03
27	183	55	13	Focal Adhesion	1.21E-12	COL11A1, COL5A2, COL1A1, LAMB1, COMP, COL5A1, COL4A1, THBS2, COL3A1, PDGFRB, THBS1, FN1, COL1A2	1.12E-10
27	78	55	12	Ecm Receptor Interaction	6.13E-14	COL11A1, COL5A2, COL1A1, LAMB1, COMP, COL5A1, COL4A1, THBS2, COL3A1, THBS1, FN1, COL1A2	1.14E-11
31	42	65	3	Proteasome	1.48E-03	PSMB9, PSMB10, PSME2	3.94E-02
31	218	65	6	Cytokine Cytokine Receptor Interaction	1.11E-03	CXCL10, CXCL11, TNFSF10, ACVR2B, CCL5, CXCL9	3.46E-02
31	156	65	7	Chemokine Signaling Pathway	1.98E-05	STAT1, STAT3, CXCL10, CXCL11, LYN, CCL5, CXCL9	1.85E-03
31	108	65	5	Lysosome	2.85E-04	CTSO, CTSD, CTSB, CTSL1, LAPTM5	1.32E-02
31	67	65	4	Antigen Processing And Presentation	4.59E-04	CTSB, CTSL1, RFXAP, PSME2	1.71E-02
31	90	65	6	Toll Like Receptor Signaling Pathway	8.54E-06	STAT1, CXCL10, CXCL11, SPP1, CCL5, CXCL9	1.59E-03
31	42	65	4	Cytosolic Dna Sensing Pathway	7.42E-05	PYCARD, CXCL10, CASP1, CCL5	4.60E-03
33	111	57	8	Cell Cycle	4.59E-08	BUB1, TTK, ESPL1, PLK1, BUB1B, CCNA2, CDC20, CCNB2	8.53E-06
33	92	57	7	Oocyte Meiosis	2.34E-07	BUB1, FBXO5, ESPL1, PLK1, AURKA, CDC20, CCNB2	2.17E-05
33	73	57	4	Progesterone Mediated Oocyte Maturation	3.85E-04	BUB1, PLK1, CCNA2, CCNB2	2.39E-02