

List of 317 differential expressed genes

Gene symbol	231–GEM vs. 231		231–RR vs. 231	
	Fold change	Direction	Fold change	Direction
AASS	–4.94	Down	–2.14	Down
ABCG1	–3.09	Down	–2.49	Down
ABL2	1.57	Up	1.71	Up
ABRACL	2.21	Up	1.70	Up
ACACA	–2.19	Down	–1.70	Down
AEN	1.93	Up	1.69	Up
AGPAT5	–1.59	Down	–1.83	Down
AGR2	–2.81	Down	–3.84	Down
AIM1	–1.80	Down	–2.01	Down
AKAP12	2.86	Up	1.85	Up
AKAP2	1.77	Up	1.90	Up
AKR1C3	–3.63	Down	–1.57	Down
ALDH7A1	–1.50	Down	–1.62	Down
AMPD3	2.08	Up	1.93	Up
ANKZF1	–1.88	Down	–2.08	Down
AOX1	3.59	Up	2.78	Up
ARHGAP5	–1.86	Down	–1.81	Down
ASAP3	–2.19	Down	–1.99	Down
ATF3	2.12	Up	1.69	Up
BCL2L13	1.79	Up	2.01	Up
BCL3	–1.84	Down	–2.27	Down
BDNF	–3.89	Down	–2.04	Down
BMPR2	–1.57	Down	–1.93	Down
C10orf116	–2.25	Down	–2.13	Down
C10orf47	1.81	Up	2.37	Up
C17orf48	2.13	Up	1.84	Up
C1orf110	1.63	Up	3.98	Up
CADPS2	–2.38	Down	–1.97	Down
CAPRIN1	–1.59	Down	–2.15	Down
CARS2	2.68	Up	1.76	Up
CASP1	2.29	Up	2.46	Up
CASP4	4.14	Up	2.71	Up
CASP8	1.65	Up	1.51	Up
CBX5	–1.54	Down	–1.62	Down
CCL20	62.38	Up	2.47	Up
CCNA2	–1.73	Down	–1.80	Down
CCNE1	1.61	Up	1.50	Up
CD3EAP	1.68	Up	1.82	Up
CD83	2.49	Up	1.55	Up
CDA	7.83	Up	3.81	Up

CDK5RAP3	-2.94	Down	-1.84	Down
CDKN1A	2.21	Up	1.83	Up
CDKN2D	-1.59	Down	-2.07	Down
CDON	-2.85	Down	-2.15	Down
CELF2	-3.83	Down	-3.25	Down
CGGBP1	-1.53	Down	-1.67	Down
CH25H	3.17	Up	3.55	Up
CHURC1-FNTB	-1.93	Down	-1.52	Down
CIRH1A	2.04	Up	1.59	Up
CLCN4	-1.50	Down	-2.44	Down
CLDN2	-2.60	Down	-1.56	Down
CLMP	1.86	Up	1.77	Up
COCH	-4.15	Down	-2.17	Down
COL13A1	-1.67	Down	-1.89	Down
COL18A1	-1.63	Down	-2.04	Down
CPM	1.73	Up	2.62	Up
CRADD	-1.68	Down	-1.72	Down
CTH	2.05	Up	2.09	Up
CTSS	1.54	Up	3.11	Up
CXCL11	2.07	Up	3.98	Up
CYLD	2.11	Up	2.27	Up
CYSTM1	1.78	Up	2.32	Up
DDIT4	-2.80	Down	-6.99	Down
DDX58	2.96	Up	1.95	Up
DIP2C	-1.83	Down	-1.50	Down
DMKN	1.53	Up	1.56	Up
DNAJB4	1.96	Up	1.97	Up
DOCK1	-1.74	Down	-1.84	Down
DPY19L4	-2.04	Down	-1.61	Down
DPYD	-2.19	Down	-2.10	Down
EBI3	5.81	Up	2.30	Up
ECM1	2.21	Up	1.72	Up
EDN1	2.33	Up	2.35	Up
EIF5A2	1.69	Up	1.94	Up
ELMOD2	-2.30	Down	-1.80	Down
ELOVL6	-3.82	Down	-1.50	Down
ENDOD1	-2.86	Down	-1.56	Down
ENTPD7	2.16	Up	1.94	Up
ETHE1	2.30	Up	1.56	Up
ETS1	1.87	Up	1.90	Up
ETS2	1.59	Up	1.64	Up
ETV1	-3.20	Down	-2.81	Down
EXD3	-1.88	Down	-1.58	Down

EXOSC9	-1.81	Down	-1.79	Down
FADS1	-2.12	Down	-1.50	Down
FADS2	-6.01	Down	-2.02	Down
FAM102B	-1.69	Down	-1.77	Down
FAM208A	-1.80	Down	-2.01	Down
FAM20C	-2.79	Down	-1.76	Down
FAT4	-3.53	Down	-2.36	Down
FBXO28	1.58	Up	1.59	Up
FGF1	1.73	Up	1.94	Up
FGF13	-1.67	Down	-2.77	Down
FGFR1	1.70	Up	1.52	Up
FLRT2	-1.81	Down	-2.39	Down
FNTB	-1.93	Down	-1.52	Down
FSTL3	1.63	Up	3.04	Up
FYN	2.74	Up	1.70	Up
G0S2	3.09	Up	2.38	Up
GADD45A	2.78	Up	2.44	Up
GCH1	3.73	Up	1.54	Up
GLT25D2	-1.97	Down	-2.03	Down
GPATCH4	1.63	Up	1.59	Up
GPR126	-1.56	Down	-1.67	Down
GRIK2	-1.85	Down	-1.51	Down
HDAC8	-2.00	Down	-1.74	Down
HIST1H1E	-6.59	Down	-2.70	Down
HIST1H2AC	3.96	Up	3.62	Up
HIST1H2BD	3.05	Up	4.20	Up
HIST1H2BK	1.71	Up	2.34	Up
HIST2H2AA3	2.71	Up	3.03	Up
HIST2H2AA4	2.71	Up	3.03	Up
HMGB3	-1.57	Down	-2.70	Down
HNRNPA2B1	-1.87	Down	-2.00	Down
HNRPDL	-1.72	Down	-1.54	Down
ICAM2	1.66	Up	2.25	Up
ICK	-3.04	Down	-1.89	Down
ID1	-1.64	Down	-7.41	Down
IDH1	-2.04	Down	-1.63	Down
IFI44	1.93	Up	2.30	Up
IFIT2	2.59	Up	1.84	Up
IFRD1	1.61	Up	1.63	Up
IGFBP3	1.54	Up	1.85	Up
IL1B	24.22	Up	2.67	Up
IL7R	4.20	Up	2.90	Up
IL8	4.42	Up	2.39	Up

INSIG1	-5.03	Down	-2.42	Down
JUN	2.01	Up	1.70	Up
KAT2B	-3.29	Down	-1.67	Down
KCTD5	1.67	Up	1.67	Up
KIAA1109	-3.09	Down	-1.55	Down
KRTAP2-4	3.85	Up	2.99	Up
KYNU	20.72	Up	2.58	Up
LAMC2	3.27	Up	2.00	Up
LGALS12	-3.29	Down	-2.23	Down
LIF	1.81	Up	1.68	Up
LIMA1	1.99	Up	1.55	Up
LIMCH1	-1.62	Down	-1.91	Down
LIPG	-7.86	Down	-2.16	Down
LOC100129518	1.90	Up	3.71	Up
LOC100506718	-1.81	Down	-2.39	Down
LOC100652751	-15.29	Down	-2.39	Down
LOC100653313	-15.29	Down	-2.39	Down
LOC730755	3.85	Up	2.99	Up
LPCAT3	-2.09	Down	-1.87	Down
LPIN1	-2.45	Down	-2.00	Down
LSS	-3.70	Down	-1.51	Down
MAGI1	-1.53	Down	-2.19	Down
MAOA	5.95	Up	2.33	Up
MAP2K3	1.68	Up	1.82	Up
MARCKSL1	-1.81	Down	-2.14	Down
MARS2	2.41	Up	1.92	Up
MBP	-2.63	Down	-1.64	Down
MCL1	1.88	Up	1.70	Up
MCM6	-1.72	Down	-1.74	Down
METTL7A	-4.94	Down	-2.58	Down
MGLL	1.93	Up	2.28	Up
MIR1908	-2.12	Down	-1.50	Down
MKI67	-3.54	Down	-1.72	Down
MLLT11	2.49	Up	1.75	Up
MMP1	64.12	Up	11.98	Up
MORC4	-6.15	Down	-2.19	Down
MPP5	-2.68	Down	-1.51	Down
MRPS12	1.94	Up	1.62	Up
MT1X	2.13	Up	1.64	Up
MTDH	-1.71	Down	-1.50	Down
MVK	-1.92	Down	-1.72	Down
MX1	1.73	Up	1.66	Up
MYO18A	-1.59	Down	-1.70	Down

NABP1	2.15	Up	1.92	Up
NCF2	8.62	Up	6.27	Up
NEXN	1.69	Up	2.17	Up
NMU	-1.54	Down	-2.17	Down
NOL6	1.60	Up	1.52	Up
NQO1	-1.59	Down	-1.84	Down
NT5C2	-2.24	Down	-1.74	Down
ODC1	2.33	Up	1.65	Up
ODZ3	-14.35	Down	-2.95	Down
OSTF1	2.46	Up	1.54	Up
P2RX5	1.97	Up	1.50	Up
PAGE5	-8.05	Down	-8.21	Down
PALM2-AKAP2	1.77	Up	1.90	Up
PARP12	1.63	Up	1.84	Up
PCBP2	-1.52	Down	-2.02	Down
PCDHB14	-2.62	Down	-2.52	Down
PCSK9	-8.80	Down	-2.48	Down
PDCD2	1.69	Up	1.54	Up
PDE7B	-2.18	Down	-2.38	Down
PDRG1	1.76	Up	1.59	Up
PHF19	-1.51	Down	-1.61	Down
PHLDA1	-2.00	Down	-1.92	Down
PHTF2	-2.44	Down	-2.00	Down
PIK3CD	2.36	Up	1.64	Up
PINK1	1.50	Up	1.84	Up
PITPNA	1.58	Up	1.94	Up
PKIG	1.65	Up	1.58	Up
PLA2G4C	3.44	Up	1.81	Up
PLAUR	2.53	Up	2.12	Up
PLCXD2	3.56	Up	2.60	Up
PLEKHA2	-1.54	Down	-1.84	Down
PLEKHS1	-3.87	Down	-3.14	Down
PLSCR4	-4.44	Down	-1.70	Down
PLXNA1	-2.29	Down	-2.09	Down
PNISR	-2.30	Down	-1.98	Down
PNPLA3	-3.23	Down	-1.70	Down
PPL	-2.46	Down	-1.75	Down
PPM1A	-2.07	Down	-1.82	Down
PPP1R15A	2.19	Up	2.37	Up
PPP1R1C	2.52	Up	5.25	Up
PPP2R5E	-1.63	Down	-1.56	Down
PRKCA	-1.63	Down	-1.86	Down
PRKCH	3.52	Up	2.07	Up

PROCR	2.32	Up	1.84	Up
PRPF4B	-1.70	Down	-2.29	Down
PTCH1	-1.53	Down	-1.60	Down
PTEN	-1.96	Down	-1.52	Down
PTGER4	2.53	Up	2.56	Up
PTHLH	2.14	Up	2.12	Up
RAB8B	1.67	Up	1.81	Up
RAET1L	1.74	Up	1.69	Up
RALGDS	-1.75	Down	-1.71	Down
RBKS	1.78	Up	1.51	Up
RGS12	-1.62	Down	-1.53	Down
RIPK2	1.72	Up	1.71	Up
RNF6	1.77	Up	1.70	Up
ROBO4	2.28	Up	2.06	Up
RRAD	2.80	Up	2.39	Up
RRP7A	1.52	Up	1.51	Up
RRS1	1.72	Up	1.59	Up
SAMD9	2.95	Up	1.76	Up
SCAPER	-1.51	Down	-1.53	Down
SCD	-11.14	Down	-2.44	Down
SDC2	-2.02	Down	-2.56	Down
SDC4	3.12	Up	2.90	Up
SELM	2.35	Up	2.07	Up
SEMA5A	-2.29	Down	-1.74	Down
SEMA7A	3.67	Up	1.97	Up
SERINC2	5.10	Up	2.65	Up
SERPIN8	1.81	Up	1.55	Up
SERPIN9	-4.18	Down	-2.35	Down
SERPINE1	1.56	Up	3.99	Up
SERTAD4	-2.13	Down	-1.55	Down
SF3B3	-1.58	Down	-1.67	Down
SGK1	1.54	Up	2.95	Up
SLC16A7	-3.25	Down	-2.02	Down
SLC1A3	-2.21	Down	-1.63	Down
SLC37A4	-1.58	Down	-1.66	Down
SLC38A4	-4.55	Down	-2.00	Down
SLC3A2	1.52	Up	1.71	Up
SLC5A3	-1.86	Down	-1.68	Down
SLC7A1	2.00	Up	1.79	Up
SLCO4C1	-4.50	Down	-5.38	Down
SMAD2	-1.99	Down	-1.91	Down
SMAD4	-2.12	Down	-2.01	Down
SNAP23	1.59	Up	1.50	Up

SOD2	1.90	Up	3.71	Up
SORBS2	-3.43	Down	-1.72	Down
SORL1	-4.14	Down	-1.75	Down
SPANXB1	-4.31	Down	-8.75	Down
SPANXB2	-4.31	Down	-8.75	Down
SPANXF1	-4.31	Down	-8.75	Down
SPHK1	3.11	Up	2.04	Up
SPINT1	2.40	Up	1.65	Up
SPOCD1	3.18	Up	1.79	Up
SPRY1	-2.20	Down	-2.25	Down
SQRDL	2.10	Up	1.57	Up
SREBF1	-3.14	Down	-2.10	Down
SRGN	13.27	Up	3.24	Up
SRSF1	-1.78	Down	-1.82	Down
ST6GALNAC5	1.93	Up	3.45	Up
STARD4	-2.54	Down	-1.64	Down
STAT4	1.76	Up	2.13	Up
STC1	1.75	Up	2.41	Up
STMN3	-2.07	Down	-2.14	Down
TAGLN	5.28	Up	2.10	Up
TAPBP	-2.28	Down	-1.55	Down
TBXAS1	-2.24	Down	-4.43	Down
TIAF1	-1.57	Down	-1.60	Down
TMEM132A	2.90	Up	2.40	Up
TMEM135	-3.46	Down	-1.84	Down
TMEM163	-5.83	Down	-4.26	Down
TMEM171	2.98	Up	2.92	Up
TMEM208	1.60	Up	1.52	Up
TMPO	-2.35	Down	-2.01	Down
TMX4	-2.02	Down	-1.70	Down
TNFAIP3	3.27	Up	2.35	Up
TNPO1	1.80	Up	1.59	Up
TNS3	-4.18	Down	-1.63	Down
TPD52L2	1.51	Up	1.61	Up
TRAF1	1.59	Up	2.54	Up
TRIB1	2.69	Up	1.91	Up
TRIOBP	-1.61	Down	-1.66	Down
TUBA4A	1.85	Up	1.96	Up
UBL3	2.44	Up	1.83	Up
UCA1	4.47	Up	5.52	Up
UCP2	-1.64	Down	-1.87	Down
ULBP2	1.74	Up	1.74	Up
UNC13A	1.60	Up	1.63	Up

UNG	-1.93	Down	-1.82	Down
USP30	-2.09	Down	-1.77	Down
VCAM1	-20.55	Down	-2.35	Down
VGLL3	4.04	Up	2.80	Up
VNN1	4.29	Up	5.52	Up
WHSC1	-1.85	Down	-1.68	Down
XDH	1.60	Up	1.70	Up
YRDC	2.03	Up	1.52	Up
ZADH2	-1.86	Down	-1.57	Down
ZC3HAV1	1.57	Up	1.90	Up
ZDHHC6	-1.60	Down	-1.61	Down
ZFPM2	-1.79	Down	-1.67	Down
ZNF226	1.54	Up	1.56	Up
ZNF267	1.68	Up	1.96	Up
ZNF468	1.69	Up	1.77	Up
ZNF488	-1.90	Down	-1.64	Down
ZNF697	2.28	Up	1.64	Up
ZNFX1	1.92	Up	1.80	Up
ZNFX1-AS1	2.26	Up	1.52	Up