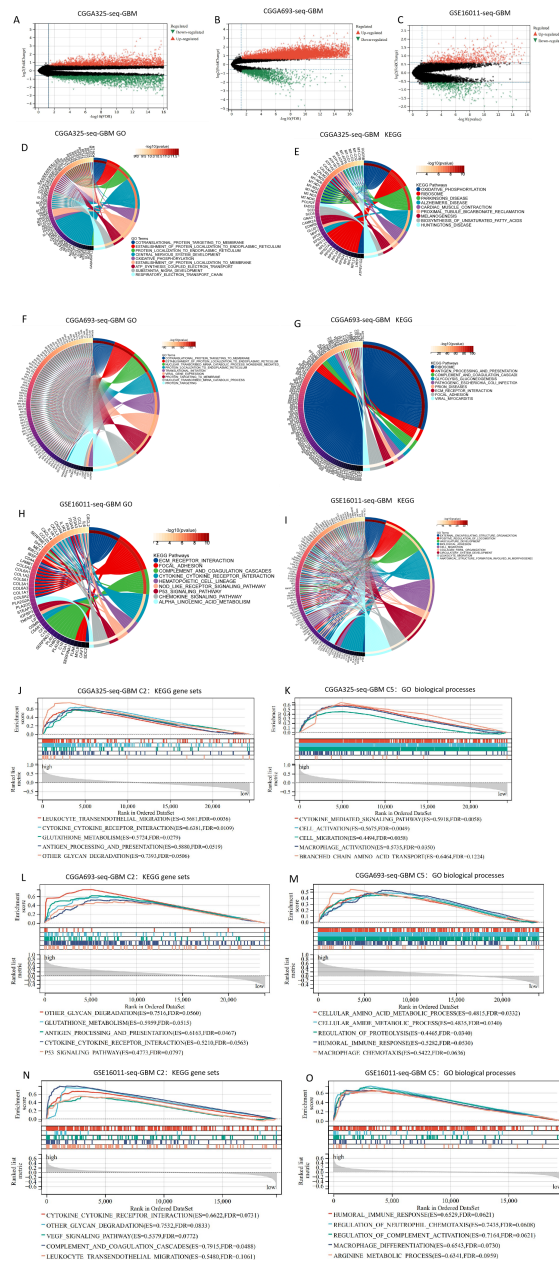




(A-C) LIMMA differential gene analysis for CGGA325, CGGA693 and GSE16011 databases; (D-I): GO and KEGG enrichment analysis for CGGA325, CGGA693 and GSE16011 databases; (J-O) GSEA enrichment analysis for CGGA325, CGGA693 and GSE16011 databases.

AMINO_ACID_AND_DERIVATIVE_METABOLIC_PROCESS

https://www.gsea-msigdb.org/gsea/msigdb/human/geneset/AMINO_ACID_AND_DERIVATIVE_METABOLIC_PROCESS

AARS1

ADI1

AIMP1

ALDH18A1

ALDH4A1

ALDH5A1

ALDH6A1

AMT

ARG1

ASL

ASMTL

ASPA

ASRGL1

ATF4

BAAT

BBOX1

BCAT1

BCKDHA

BCKDHB

BCKDK

BPHL

CD01

COLQ

DARS1

DCT

DDAH1

DDAH2

DDO

DHPS

DI01

DI02

ETNK1

FAH

FARS2

FPGS

GAD1

GAD2

GAMT

GATM

GCLC

GCLM

GCSH

GGT1
GGT5
GLDC
GLS2
GLUD1
GLUD2
GOT1
GOT2
GSS
GSTZ1
HDC
HGD
HPD
HPRT1
ID01
KARS1
KYAT1
MARS2
MAT1A
MAT2B
MCCC2
MSRA
MTHFR
NFS1
OAZ1
OAZ2
OTUB2
P4HB
PAH
PEPD
PLOD1
PRG3
PTS
PYCR1
QDPR
RARS1
SARS2
SCLY
SDS
SLC25A15
SLC3A1
SLC5A7
SLC6A14
SLC6A6

SLC7A2
SLC7A4
SLC7A5
SLC7A6
SLC7A7
SLC7A8
SLC7A9
SMS
SNCAIP
SULT1B1
TGFB2
TYR
WARS1
YARS1
YOD1

GOBP_AMINO_ACID_METABOLIC_PROCESS

https://www.gsea-msigdb.org/gsea/msigdb/human/geneset/GOBP_AMINO_ACID_METABOLIC_PROCESS

AADAT
AARS1
AARS2
AARSD1
AASDH
AASDHPPT
AASS
ABAT
ACAD8
ACADSB
ACAT1
ACCS
ACCSL
ACMSD
ACY1
ADHFE1
ADI1
ADSS1
ADSS2
AFMID
AGMAT
AGXT
AGXT2
ALDH18A1
ALDH1A1
ALDH4A1

ALDH5A1
ALDH6A1
ALDH8A1
AMDHD1
AMT
APIP
ARG1
ARG2
ARHGAP11B
ART4

ASL

ASNS
ASNSD1
ASPA
ASPG
ASRGL1
ASS1
ATCAY
ATF4
ATP2B4
ATP7A
AUH
AZIN1
AZIN2
BAAT
BCAT1
BCAT2
BCKDHA
BCKDHB
BCKDK
BHMT
BHMT2
BLMH
BPHL
CAD
CARNMT1
CARNS1
CARS1
CARS2
CBS
CD01
CLN3
CPS1
CRYM

CSAD
CTH
CTNS
CTPS1
CTPS2
DALRD3
DAO
DARS1
DARS2
DBT
DCT
DDAH1
DDAH2
DDC
DDO
DGLUCY
DHFR
DHFR2
DHFRP1
DIO1
DLD
DLST
DPEP1
DPYD
EARS2
ECHS1
ENOPH1
ENOSF1
ENSG00000274276
EPRS1
ETFA
ETFB
FAH
FARS2
FARSA
FARSB
FN3K
FPGS
FTCD
GAD1
GAD2
GARS1
GART
GATB

GATC
GCAT
GCDH
GCLC
GCLM
GCSH
GFPT1
GFPT2
GGT1
GGT5
GLDC
GLS
GLS2
GLUD1
GLUD2
GLUL
GLYAT
GLYATL1
GLYATL1B
GMPS
GNMT
GOT1
GOT1L1
GOT2
GPT
GPT2
GSS
GSTZ1
HAAO
HAL
HAO1
HARS1
HARS2
HDC
HGD
HIBADH
HIBCH
HMGCL
HMGCLL1
HNF4A
HNMT
HOGA1
HPD
HPDL

HSD17B10
HYKK
IARS1
IARS2
ICMT
ID01
ID02
IL4I1
ILVBL
INS
IVD
IYD
KARS1
KMO
KYAT1
KYAT3
KYNV
LARS1
LARS2
LGSN
LRRC47
MARS1
MARS2
MAT1A
MCCC1
MCCC2
MECP2
MIR21
MMUT
MPST
MRI1
MSRA
MTAP
MTHFD1
MTHFD2L
MTHFR
MTHFS
MTR
MTRR
NAGS
NARS1
NARS2
NAT8L
NDP

NIT2
NOS1
NOS2
NOS3
NOX4
NOXRRED1
NR1H4
OAT
OCA2
ODC1
OTC
PAH
PARK7
PARS2
PCBD1
PCBD2
PCCA
PCCB
PEPD
PFAS
PHGDH
PIPOX
PLOD2
PLOD3
PM20D1
PPAT
PRODH
PRODH2
PSAT1
PSPH
PTS
PYCR1
PYCR2
PYCR3
QARS1
QDPR
QRSL1
RARS1
RARS2
RIDA
RIMKLA
RIMKLB
SARDH
SARS1

SARS2
SCLY
SDS
SDSL
SEPHS1
SEPHS2
SERINC3
SERINC5
SHMT1
SHMT2
SIRT4
SLC16A2
SLC1A3
SLC25A12
SLC25A13
SLC25A2
SLC25A21
SLC25A44
SLC38A1
SLC39A8
SLC45A2
SLC7A11
SLC7A7
SMS
SRR
TARS1
TARS2
TARS3
TAT
TD02
TH
THAP4
THNSL2
TPH1
TPH2
TTC36
TYR
UCP2
UPB1
UROC1
VARs1
VARs2
WARS1
WARS2

YARS1

YARS2

KEGG_ARGININE_AND_PROLINE_METABOLISM

https://www.gsea-msigdb.org/gsea/msigdb/human/geneset/KEGG_ARGININE_AND_PROLINE_METABOLISM

ACY1

AGMAT

ALDH18A1

ALDH1B1

ALDH2

ALDH3A2

ALDH4A1

ALDH7A1

ALDH9A1

AMD1

AOC1

ARG1

ARG2

ASL

ASS1

AZIN2

CKB

CKM

CKMT1A

CKMT1B

CKMT2

CPS1

DAO

GAMT

GATM

GLS

GLS2

GLUD1

GLUD2

GLUL

GOT1

GOT2

LAP3

MAOA

MAOB

NAGS

NOS1

NOS2

NOS3

OAT
ODC1
OTC
P4HA1
P4HA2
P4HA3
PRODH
PRODH2
PYCR1
PYCR2
PYCR3
SAT1
SAT2
SMS
SRM

AMINO_ACID_AND_DERIVATIVE_METABOLIC_PROCESS

https://www.gsea-msigdb.org/gsea/msigdb/human/geneset/AMINO_ACID_AND_DERIVATIVE_METABOLIC_PROCESS

AARS1
ADI1
AIMP1
ALDH18A1
ALDH4A1
ALDH5A1
ALDH6A1
AMT
ARG1
ASL
ASMTL
ASPA
ASRGL1
ATF4
BAAT
BBOX1
BCAT1
BCKDHA
BCKDHB
BCKDK
BPHL
CD01
COLQ
DARS1
DCT
DDAH1

DDAH2
DDO
DHPS
DI01
DI02
ETNK1
FAH
FARS2
FPGS
GAD1
GAD2
GAMT
GATM
GCLC
GCLM
GCSH
GGT1
GGT5
GLDC
GLS2
GLUD1
GLUD2
GOT1
GOT2
GSS
GSTZ1
HDC
HGD