

Table S1- Common genes selected from metaMGUS and metaMM. The columns report the gene symbol, the description and the median values of MGUS and MM, respectively. In particular, the median values correspond to the median values of gene expression in all the analysed samples from 8 patients for MGUS and 10 patients for MM.

Gene symbol	Description	Median values of MM	Median values of MGUS
B2M	Beta-2-microglobulin	0.803665	1.138496
GON4L	Hypothetical protein FLJ23040	1.025625	0.705567
Trappc11	Hypothetical protein FLJ12716	0.953861	0.664985
WHSC1	Homo Sapiens clone B3B3E13 chromosome 4p16.3 DNA fragment	1.444996	1.208297
MMP24	Matrix metalloproteinase 24 membrane-inserted	1.399972	1.638051
AHSG	Alpha-2-HS-glycoprotein	0.590326	0.661648
RGS16	Regulator of G-protein signalling 16	0.665892	0.533122
ZFP64	Zinc finger protein 338	0.549547	0.632147
IGSF3	Immunoglobulin superfamily. member 3	1.309410	1.137218
KRT37	Keratin. hair. acidic. 7	0.947509	0.691861
PROK1	Prokineticin 1 precursor	0.612389	0.597899
OR5G1P	Olfactory receptor. family 5. subfamily G. member 1 pseudogene	0.740104	0.901389
HYAL3	Hyaluronoglucosaminidase 3	0.905676	1.216750
RIG-like 14-1 (LOC51047)	RIG-like 14-1	0.957418	0.843811
FSCN2	Fascin homolog 2. actin-bundling protein. retinal Strongylocentrotus purpuratus	1.555132	1.301086
KANK2	Hypothetical protein FLJ20004	1.095215	0.642862
TVP23B	CGI-148 protein	0.588956	0.092288
KLF5	Kruppel-like factor 5 intestinal	0.667383	0.687529
LGR5	G protein-coupled receptor 49	0.956719	0.833937
GNRHR	Gonadotropin-releasing hormone 1 leutinizing-releasing hormone	0.343268	0.162134
SH3BP5L	KIAA1720 protein	0.815569	0.785576

ANXA11	Annexin A11	0.999355	0.945053
PRDM14	PR domain containing 14	0.950124	0.733451
C2orf42	Hypothetical protein FLJ20558	1.009160	0.851449

Table S2- Uncommon genes between metaMGUS and metaMM found in metaMM. The columns in the table report the gene symbol, the description and the median values of MM and MGUS. In particular, the median values of MGUS and MM correspond to the median values of gene expression all samples analysed by 8 patients for MGUS and 10 patients for MM.

Gene symbol	Description	Median values of MM	Median values of MGUS
APC2	Adenomatosis polyposis coli	0.175976	0.167160
SERPINB9	Serine or cysteine proteinase inhibitor, clade B ovalbumin, member 9	0.880388	1.013527
VPS54	Tumor antigen SLP-8p	0.193500	0.222565
LOC101929104	Mitochondrial import receptor Tom22	0.882351	0.733234
ETV1	Ets variant gene 3	0.854903	1.275559
ANKFY1	ANKHZN protein	0.969263	0.697040
CTSV	Cathepsin L2	1.472927	1.303946
CASK	Trinucleotide repeat containing 8	0.317374	0.297790
SELT	Selenoprotein T	0.523566	0.804447
ARID1A	Uncharacterized bone marrow protein BM029	0.788157	0.889967
AK3	Adenylate kinase 3 alpha like	1.872808	1.401019
ST18	KIAA0535 gene product	1.262914	0.893420
CFL1	Cofilin 1 non-muscle	1.978321	1.397946
CEP104	KIAA0562 gene product	1.126382	1.056969
OMG	Oligodendrocyte myelin glycoprotein	0.744629	0.607513
CRK	V-crk sarcoma virus CT10 oncogene homolog avian -like	0.642147	0.873722
ZNF24	Zinc finger protein 24 KOX 17	1.011721	0.942563
NUDT1	Nudix nucleoside diphosphate linked moiety X - type motif 7	1.227940	1.276103
SNW1	SKI-interacting protein	0.485091	0.687023
OR2S2	Olfactory receptor. family 2. subfamily S. member 2	0.785907	1.131711
ZNF14	Zinc finger protein 14 KOX 6	0.606624	0.519972
GPN3	Protein x 0004	1.254619	1.246093
CCL11	Small inducible cytokine subfamily A Cys-Cys . member 11 eotaxin	0.682041	0.376786
ZCCHC17	Human putative ribosomal protein S1 mRNA	0.980212	0.853457

B4GALT4	UDP-Gal:betaGlcNAc beta 1.4-galactosyltransferase. polypeptide 4	1.281967	1.325816
NME8	NM23-H8	1.219057	0.747027
CD3E	CD3E antigen. epsilon polypeptide TiT3 complex	1.024422	1.384596
FCN1	Ficolin collagen fibrinogen domain containing 1	1.067468	0.770358
ZSCAN12	KIAA0426 gene product	0.299564	0.381118
DARS	Aspartyl-tRNA synthetase	1.088727	1.667536
SLC26A4	Solute carrier family 26. member 4	0.561984	0.588722
NFATC1	Nuclear factor of activated T-cells. cytoplasmic. calcineurin-dependent 3	0.572047	0.541798
EDNRA	Endothelin receptor type A	1.168090	0.967136
PTPN11	Protein tyrosine phosphatase. non-receptor type 11	0.765553	0.703333
GALR3	Galanin receptor 3	1.057470	0.899316
DDX4	VASA protein	0.393849	0.443761
USP28	Ubiquitin specific protease 28	0.374006	0.646873
RRNAD1	CGI-41 protein	0.879972	0.851924
MRPS5	Mitochondrial ribosomal protein S5	1.112703	1.141840
GALNT6	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 6 GalNAc-T6	0.530203	0.804280
USP38	HP43.8KD protein	0.314880	0.333407
Chrb4	Cholinergic receptor. nicotinic. beta polypeptide 4	1.043551	0.804825
STS	Human DNA sequence from PAC 30P20 on chromosome Xq21.1-Xq21.3. Contains set pseudogene. ESTs and STS	0.964794	1.026304
DDOST	Dolichyl-diphosphooligosaccharide-protein glycosyltransferase	0.338263	0.342192
SPI1	Spleen focus forming virus SFFV proviral integration oncogene spi1	1.139172	1.777054
PDSS1	Trans-prenyltransferase	0.872644	1.370615
SRGN	Proteoglycan 1. secretory granule	1.379783	0.871478
PDPK1	3-phosphoinositide dependent protein kinase1	0.529942	0.429391
ID2	Inhibitor of DNA binding 1. dominant negative helix-loop-helix protein	0.783597	0.723752
KCNA4	Potassium voltage-gated channel. shaker-related subfamily. member 4	1.003285	1.116546

PICALM	Phosphatidylinositol binding clathrin assembly protein	1.448186	1.030968
SLIT2	Slit homolog 2 Drosophila	1.347214	1.098022
ENPP2	Ectonucleotide pyrophosphatase phosphodiesterase 2 autotaxin	1.692701	1.233976
CDS1	CDP-diacylglycerol synthase phosphatidate cytidyltransferase 1	1.357250	1.201198
FXVD7	ESTs	0.876743	0.880739
ULK2	Unc-51-like kinase 2 C. elegans	0.350618	0.323723
MAGEH1	APR-1 protein	1.351134	1.091539
TM9SF4	KIAA0255 gene product	0.776017	0.808375
PCAT1	Prostate cancer associated protein 1	1.016242	0.803037
FER1L4	Fer-1-like 4 C. elegans	1.070324	1.179898
PTTG1	Fibroblast growth factor 2 basic	0.373790	0.438797
ANKRD26	KIAA1074 protein	0.638264	1.343675
KCNH3	Potassium voltage-gated channel. subfamily H eag-related . member 3	0.918936	0.868978
GPR52	G protein-coupled receptor 52	1.552585	2.100040
CPVL	Carboxypeptidase. vitellogenic-like	0.934009	1.496231
TGFB3	Transforming growth factor. beta 3	0.740539	0.710438
ADCY10	Soluble adenylyl cyclase	1.002955	0.658123
ZNF286A	Peroxisome proliferative activated receptor. alpha-like	0.798243	1.369890
GAB2	GRB2-associated binding protein 2	1.621051	1.703815
MAP4K1	Mitogen-activated protein kinase kinase kinase kinase 1	1.087872	0.940820
DYNC1H1	Dynein. cytoplasmic. heavy polypeptide 1	1.499002	1.251249
ZFHX2	KIAA1762 protein	0.927258	1.115033
Txlna	Hypothetical protein FLJ11209	0.519810	0.550158
KRT15	Keratin 15	1.152301	1.344766
TBK1	TANK-binding kinase 1	0.436002	0.557374
RAB1C	Putative GTP-binding protein similar to RAY RAB1C	0.399786	0.307254
MRPL2	Mitochondrial ribosomal protein L2	1.243286	1.803796

SLC13A2	Solute carrier family 13 sodium-dependent dicarboxylate transporter . member 2	1.070961	1.152523
ZNF106	Zinc finger protein 106	1.462370	1.904974
TNF	Tumor necrosis factor TNF superfamily. member 2	0.936268	0.830499
MRPL42	Mitochondrial ribosomal protein L42	1.312141	1.143862
DNAJC30	DNAJ domain-containing	1.117829	1.167788
ELL	ELL gene 11-19 lysine-rich leukemia gene	0.359967	0.46215
RGS8	Regulator of G-protein signalling 8	1.351951	1.133003
NR1D2	Nuclear receptor subfamily 1. group D. member 2	1.091516	1.012955
CD28	CD28 antigen Tp44	0.342348	0.235467
ZNF664-FAM101A	Hypothetical protein	0.631110	1.388829
COX5BP6	Cytochrome c oxidase subunit Vb	0.789345	0.919977
WISP1	WNT1 inducible signaling pathway protein 1	0.883377	0.933203
PPP3CB	Protein phosphatase 3 formerly 2B . catalytic subunit. beta isoform calcineurin A beta	0.939975	0.634449
TRA	T cell receptor alpha locus	0.640758	0.443213
LOC100133284	Striatin. calmodulin binding protein	1.206089	1.474255
ARNTL2	Transcription factor BMAL2	1.278001	1.239264
SNRPG	Small nuclear ribonucleoprotein polypeptide G	1.183811	1.304376
TNRC6A	KIAA1460 protein	0.867007	1.160592
FBXW7	F-box and WD-40 domain protein 7 archipelago homolog. Drosophila	0.539158	1.013905
SNRPF	Sm protein F	1.298032	1.032848
PREP	Prolyl endopeptidase	0.332721	0.583155
UBA1	Ubiquitin-activating enzyme E1 A1S9T and BN75 temperature sensitivity complementing	0.356663	0.158528
MBD6	KIAA1887 protein	0.778144	0.240557
BACE2	Beta-site APP-cleaving enzyme	0.799644	1.233825
DCUN1D1	RP42 homolog	0.976125	0.921353
SMIM3	Integral membrane protein 3	0.924781	0.846095
SDF2L1	Stromal cell-derived factor 2-like 1	1.025839	1.345788
ZNF678	Hypothetical protein MGC15634	1.148892	1.070157

BMP4	Bone morphogenetic protein 4	1.087429	1.387971
POGLUT1	X 010 protein	0.572979	0.586705
MORF4L2	MORF-related gene X	0.698633	1.032204
RRP15	KIAA0507 protein	0.602829	0.384672
LDHA	Lactate dehydrogenase A	1.086640	1.628555
GOLPH3L	Hypothetical protein FLJ10687	1.363248	1.571834
HGF	Hepatocyte growth factor hepapoinetin A; scatter factor	1.644962	1.689652
TTY7	Testis transcript Y 7	0.787892	1.198582
TIMM10B	Fracture callus 1 homolog rat	0.862313	1.219299
ZNF706	HSPC038 protein	0.604956	0.749589
RHOD	Ras homolog gene family. member D	1.179139	1.670044
EIF4A1	Eukaryotic translation initiation factor 4A. isoform 2	1.190069	0.936028
NLGN2	Neuroigin	0.746668	0.614502
QDPR	Quinoid dihydropteridine reductase	0.972769	0.593320
PMS2P1	Postmeiotic segregation increased 2-like 1	0.806075	0.848609
CDH18	Cadherin 18. type 2	0.883477	1.343320
WDR43	KIAA0007 protein	0.882125	0.862392
RIMBP2	Peripheral benzodiazepine receptor-associated protein 1	0.943184	0.853214
CLIC3	Chloride channel 3	1.007021	1.078240
DOCK7	KIAA1771 protein	0.973177	0.895137
SPINT3	Serine protease inhibitor. Kunitz type. 3	0.550136	0.492881
MAN1B1	Mannosidase. alpha. class 1B. member 1	1.532104	1.516899
CASP9	Apoptotic protease activating factor	0.742047	1.125014
PCF11	PCF11p homolog	1.144863	0.822713
NRXN1	Neurexin 1	1.066146	1.033152
AKR1B1	Aldo-keto reductase family 1. member B1 aldose reductase	1.268493	1.238467
LRP8	Low density lipoprotein receptor-related protein 8. apolipoprotein e receptor	0.818569	0.708146
NGLY1	Hypothetical protein FLJ12409	0.776626	0.803186

IRF5	Interferon regulatory factor 5	1.020507	0.817257
ENSA	Endosulfine alpha	0.443276	0.885606
DNAH5	KIAA1603 protein	0.796842	0.723412
S100A13	S100 calcium binding protein A13	0.637607	0.739085
SENP1	Sentrin SUMO-specific protease	1.113717	1.466075
EGF	Cadherin, EGF LAG seven-pass G-type receptor 3 flamingo homolog, Drosophila	0.748213	0.978484
MICALL1	KIAA1668 protein	0.678081	0.387605
MYF5	Myogenic factor 5	1.580369	1.330095
MYOZ2	Myozenin 2	0.924871	1.068712
BEGAIN	KIAA1446 protein	1.131344	0.901690
RNH1	Ribonuclease angiogenin inhibitor	0.738804	0.719450
OTC	Ornithine carbamoyltransferase	1.685525	1.298201
ANKLE2	KIAA0692 protein	1.482089	1.912008
FZD2	Wingless-type MMTV integration site family. member 3A	1.033030	0.930118
CAPN9	Calpain 9 nCL-4	1.264316	1.106680
RGP1	KIAA0258 gene product	0.753138	0.473198
AZGP1	Alpha-2-glycoprotein 1. zinc	0.787439	0.924746
CLCP2	KIAA1802 protein	0.871565	1.093127
HAPLN1	Cartilage linking protein 1	0.761792	0.824901
ASGR1	Asialoglycoprotein receptor 1	1.013404	1.156353
PNPLA8	Intracellular membrane-associated calcium- independent phospholipase A2 gamma	0.993022	0.753920
LCP2	Lymphocyte cytosolic protein 2 SH2 domain- containing leukocyte protein of 76kD	0.756877	0.910425
ADSL	Adenylosuccinate lyase	0.513571	0.701675
TATDN1	CDA11 protein	0.782098	0.811012
KCNQ2	Potassium voltage-gated channel, KQT-like subfamily, member 2	1.064119	1.169697
ATP10D	ATPase, Class V, type 10D	0.828088	0.602347
APIP	CGI-29 protein	0.779293	0.784027
STRN4	Zinedin	1.378840	1.331451

HOXD4	Homeo box D4	1.759350	1.106071
KLK13	Kallikrein 13	0.708197	0.923935
CSF2RA	Colony stimulating factor 2 receptor. alpha. low-affinity granulocyte-macrophage	1.190615	0.904580
H1FX	H1 histone family. member X	1.527574	1.158693
TIMM10	Mitochondrial carrier family protein	0.899489	1.055313
CDC45	CDC45 cell division cycle 45-like <i>S. cerevisiae</i>	0.794961	0.754727
NRBP1	Nuclear receptor binding protein	1.039743	0.838734
MAP3K5	Mitogen-activated protein kinase kinase kinase 5	0.921271	1.056432
LRP5	Low density lipoprotein receptor-related protein 5	1.472782	1.131125
PRNP	Chromosome 20 open reading frame 30	0.407351	0.531181
OSBPL3	Oxysterol binding protein-like 3	0.919011	1.007554
GAMT	Guanidinoacetate N-methyltransferase	0.826861	1.198469
HNRNPA1	Heterogeneous nuclear ribonucleoprotein A1	0.654013	0.592714
CCSER2	KIAA1128 protein	1.172330	1.375814
HDAC6	Histone deacetylase 6	1.047143	1.307820
ACTR2	ARP2 actin-related protein 2 homolog yeast	1.778721	2.773088
COMP	Homo sapiens cDNA FLJ10183 fis. clone HEMBA1004276. highly similar to Homo sapiens AP-4 adaptor comp	0.860395	0.898790
EIF2A	CDA02 protein	0.776017	0.684588
PIPSL	Proteasome prosome. macropain 26S subunit. non-ATPase. 10	0.733711	0.886086
FCGR3B	Fc fragment of IgG. low affinity IIIb. receptor for CD16	1.536358	1.468015
AHNAK	AHNAK nucleoprotein desmoyokin	1.695618	1.594387
CBX6	Chromobox homolog 6	0.900156	0.735430
E2F5	Tumor differentially expressed 1	1.259257	1.326932
LAT	Linker for activation of T cells	0.688736	0.628996
NDUFC1	NADH dehydrogenase ubiquinone 1. subcomplex unknown. 1 6kD. KFYI	1.006807	0.814607
CREB5	CAMP response element-binding protein CRE-BPa	1.545728	1.042755
IL2RB	Interleukin 2 receptor. beta	0.723289	1.067273

RPS10P5	Ribosomal protein S10-like	0.565673	0.653710
STKLD1	Serine threonine kinase 9	0.555104	0.385034
HYDIN	KIAA1864 protein	0.931048	0.689630
ATP10B	Hypothetical protein FLJ21477	1.043590	0.918895
ADRA2B	Adrenergic. alpha-2B-. receptor	0.858683	1.178778
XPR1	Xenotropic and polytropic retrovirus receptor	0.779829	0.830146
BTC	Betacellulin	1.331437	1.009758
TSPAN3	Tetraspan 3	0.657112	0.391867
CSNK1G3	Casein kinase 1. gamma 3	0.905822	1.326315
SNHG12	PNAS-123	0.653745	0.541717
ANKRA2	Ankyrin repeat. family A RFXANK-like . 2	0.870570	0.880148
ACTN1	Actinin. alpha 1	0.542697	0.496318
NASP	Nuclear autoantigenic sperm protein histone-binding	1.075783	1.054038
L3MBTL1	H-1 3 mbt-like protein	0.954779	0.837488
GUCY1A2	Guanylate cyclase 1. soluble. alpha 2	0.535890	0.421897
LGALS13	Placental protein 13	0.800037	0.923168
FYN	FYN oncogene related to SRC. FGR. YES	0.845066	1.077178
CCT7	Chaperonin containing TCP1. subunit 7 eta	1.178323	1.302153
SDF4	Calcium binding protein Cab45 precursor	0.934956	0.987124
NFYC	Nuclear transcription factor Y. gamma	1.016095	1.344819
CNR2	Cannabinoid receptor 2 macrophage	1.435427	0.986083
FAXDC2	Fatty acid hydroxylase	0.983953	1.431886
CWH43	Hypothetical protein FLJ21511	1.276331	1.191748
CBR3	Carbonyl reductase 3	0.998912	1.130570
FOXD1	Forkhead box D1	0.816511	0.869880
ZBTB22	Zinc finger protein 297	0.724319	1.221150
NRBF2	Nuclear receptor binding factor-2	0.544962	0.595578
GPM6B	Glycoprotein M6B	1.184615	1.284501
