

**The transcriptomic profile of CD138<sup>+</sup> cells from patients with early progression from smoldering to active multiple myeloma remains substantially unchanged**

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**Supplementary Table 1:** 273 differentially expressed genes between NP-SMM and P-SMM CD138+ samples. In the table, the 30 most variable genes with a least 2 absolute fold change expression variation are highlighted in light blue (pfp: percentage of false prediction using RankProd package for Bioconductor).

Gene symbol- ENSG	Fold Change (SMM-P vs SMM-NP)	Pfp (<1%)	Approximate P.value
FRZB ENSG00000162998	3,080714726	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
LAMP5 ENSG00000125869	3,056234719	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CNTN5 ENSG00000149972	2,790178571	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
SULF2 ENSG00000196562	2,683843264	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
ITGA8 ENSG00000077943	2,610966057	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
KIT ENSG00000157404	2,569373073	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CTGF ENSG00000118523	2,44977952	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
DKK1 ENSG00000107984	2,447381302	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
ATP10B ENSG00000118322	2,411963338	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
IL5RA ENSG00000091181	2,283105023	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
FIGN ENSG00000182263	2,239641657	2,00E-04	<1x10 <sup>4</sup>
ABCG2 ENSG00000118777	2,220741728	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CDH2 ENSG00000170558	2,212389381	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
MFAP3L ENSG00000198948	2,071680133	2,00E-04	<1x10 <sup>4</sup>
TBCEL ENSG00000154114	1,992428771	2,00E-04	<1x10 <sup>4</sup>
BTBD3 ENSG00000132640	1,977066034	2,00E-04	<1x10 <sup>4</sup>
CADM1 ENSG00000182985	1,940993789	1,00E-04	<1x10 <sup>4</sup>
NEB ENSG00000183091	1,939111887	2,00E-04	<1x10 <sup>4</sup>
KIAA1217 ENSG00000120549	1,913509376	3,00E-04	<1x10 <sup>4</sup>
MORC1 ENSG00000114487	1,904761905	2,00E-04	<1x10 <sup>4</sup>
ADGRB3 ENSG00000135298	1,887504719	2,00E-04	<1x10 <sup>4</sup>
TMPRSS11E ENSG00000087128	1,879699248	0,0081	<1x10 <sup>4</sup>
USH2A ENSG00000042781	1,865671642	0,0044	<1x10 <sup>4</sup>
LSAMP ENSG00000185565	1,848770568	2,00E-04	<1x10 <sup>4</sup>
SAMD9L ENSG00000177409	1,807664497	2,00E-04	<1x10 <sup>4</sup>
ELOVL7 ENSG00000164181	1,795009873	6,00E-04	<1x10 <sup>4</sup>
STK17A ENSG00000164543	1,766472355	5,00E-04	<1x10 <sup>4</sup>
RSAD2 ENSG00000134321	1,759943682	2,00E-04	<1x10 <sup>4</sup>
RASSF6 ENSG00000169435	1,759633996	3,00E-04	<1x10 <sup>4</sup>
PDE3A ENSG00000172572	1,749475157	0,006	<1x10 <sup>4</sup>
HGF ENSG00000019991	1,743679163	5,00E-04	<1x10 <sup>4</sup>
DCLK1 ENSG00000133083	1,737619461	0,0012	<1x10 <sup>4</sup>
IFI6 ENSG00000126709	1,735809755	2,00E-04	<1x10 <sup>4</sup>
MAGEC1 ENSG00000155495	1,730702665	2,00E-04	<1x10 <sup>4</sup>
AC024940.1 ENSG00000177359	1,726221302	0,0014	<1x10 <sup>4</sup>
QPCT ENSG00000115828	1,715265866	2,00E-04	<1x10 <sup>4</sup>
ISLR ENSG00000129009	1,677008217	0,0024	<1x10 <sup>4</sup>
HERC5 ENSG00000138646	1,671681712	7,00E-04	<1x10 <sup>4</sup>
LGR4 ENSG00000205213	1,642305797	0,002	<1x10 <sup>4</sup>

CHSY3 ENSG00000198108	1,623903865	0,0012	<1x10 <sup>4</sup>
GPRIN3 ENSG00000185477	1,623376623	4,00E-04	<1x10 <sup>4</sup>
SMAD1 ENSG00000170365	1,619433198	0,0043	<1x10 <sup>4</sup>
IFI44 ENSG00000137965	1,605651895	0,006	<1x10 <sup>4</sup>
PCDHB14 ENSG00000120327	1,601281025	0,0045	<1x10 <sup>4</sup>
MX1 ENSG00000157601	1,595659805	0,0029	<1x10 <sup>4</sup>
TNFSF10 ENSG00000121858	1,593879503	0,0022	<1x10 <sup>4</sup>
TOX ENSG00000198846	1,589319771	0,0028	<1x10 <sup>4</sup>
PDCD4 ENSG00000150593	1,587805653	0,0012	<1x10 <sup>4</sup>
BTAF1 ENSG00000095564	1,587301587	0,0051	<1x10 <sup>4</sup>
SAMD9 ENSG00000205413	1,583782072	0,0024	<1x10 <sup>4</sup>
GRIA3 ENSG00000125675	1,580527896	0,0046	<1x10 <sup>4</sup>
UBE2Q2 ENSG00000140367	1,580028441	0,0027	<1x10 <sup>4</sup>
GOLGA8S ENSG00000261739	1,573316551	0,0014	<1x10 <sup>4</sup>
FGD6 ENSG00000180263	1,569119724	0,0045	<1x10 <sup>4</sup>
RNF168 ENSG00000163961	1,568135487	0,0029	<1x10 <sup>4</sup>
PARP14 ENSG00000173193	1,562988434	0,006	<1x10 <sup>4</sup>
GBP1 ENSG00000117228	1,557147306	0,0053	<1x10 <sup>4</sup>
LTBP1 ENSG00000049323	1,552553951	0,0019	<1x10 <sup>4</sup>
FAM13A ENSG00000138640	1,546072975	0,0038	<1x10 <sup>4</sup>
TECTA ENSG00000109927	1,545117429	0,0064	<1x10 <sup>4</sup>
IFI27 ENSG00000165949	1,542971764	0,0052	<1x10 <sup>4</sup>
HERC6 ENSG00000138642	1,538224888	0,0052	<1x10 <sup>4</sup>
PEAK1 ENSG00000173517	1,536334306	0,0064	<1x10 <sup>4</sup>
NPY4R2 ENSG00000264717	1,535626536	0,0063	<1x10 <sup>4</sup>
IFIT5 ENSG00000152778	1,531862745	0,0063	<1x10 <sup>4</sup>
RNF144B ENSG00000137393	1,530456076	0,0025	<1x10 <sup>4</sup>
EPST11 ENSG00000133106	1,522533496	0,0044	<1x10 <sup>4</sup>
FUT8 ENSG00000033170	1,520218912	0,0063	<1x10 <sup>4</sup>
ETV1 ENSG00000006468	1,507386192	0,0025	<1x10 <sup>4</sup>
AP003108.2 ENSG00000256591	1,506931887	0,006	<1x10 <sup>4</sup>
CPED1 ENSG00000106034	1,505570611	0,0056	<1x10 <sup>4</sup>
MTX3 ENSG00000177034	1,503307276	0,0076	<1x10 <sup>4</sup>
PCDHGA9 ENSG00000261934	1,502178158	0,0036	<1x10 <sup>4</sup>
TLR10 ENSG00000174123	1,501050736	0,0048	<1x10 <sup>4</sup>
SLC44A5 ENSG00000137968	1,492760113	0,0045	<1x10 <sup>4</sup>
TRPM7 ENSG00000092439	1,492760113	0,01	<1x10 <sup>4</sup>
CPEB4 ENSG00000113742	1,488759863	0,0052	<1x10 <sup>4</sup>
LRRC70 ENSG00000186105	1,487652484	0,0069	<1x10 <sup>4</sup>
BTLA ENSG00000186265	1,485001485	0,0044	<1x10 <sup>4</sup>
LAP3 ENSG00000002549	1,484340211	0,008	<1x10 <sup>4</sup>
DDX58 ENSG00000107201	1,484340211	0,009	1,00E-04
JCHAIN ENSG00000132465	1,484119917	0,008	<1x10 <sup>4</sup>
RNPC3 ENSG00000185946	1,476668636	0,01	1,00E-04
ZNF215 ENSG00000149054	1,466705779	0,0071	<1x10 <sup>4</sup>
STAP1 ENSG00000035720	1,442793248	0,0018	<1x10 <sup>4</sup>

GOLGA8A ENSG00000175265	1,440299582	0,0052	<1x10 <sup>4</sup>
EPHB1 ENSG00000154928	1,424907381	0,0074	<1x10 <sup>4</sup>
BIRC3 ENSG00000023445	1,419849496	0,006	<1x10 <sup>4</sup>
GCNT4 ENSG00000176928	1,408252359	0,0079	<1x10 <sup>4</sup>
EDNRB ENSG00000136160	1,398601399	0,0045	<1x10 <sup>4</sup>
CD200 ENSG00000091972	1,390820584	0,0066	<1x10 <sup>4</sup>
TMEM156 ENSG00000121895	1,387347392	0,0052	<1x10 <sup>4</sup>
KCNS3 ENSG00000170745	1,374381528	0,0073	<1x10 <sup>4</sup>
CTSW ENSG00000172543	1,372118551	5,00E-04	<1x10 <sup>4</sup>
CCR2 ENSG00000121807	1,320829481	0,007	<1x10 <sup>4</sup>
MAML2 ENSG00000184384	1,308557969	0,0063	<1x10 <sup>4</sup>
MT1X ENSG00000187193	1,299545159	0,0067	<1x10 <sup>4</sup>
FAM106A ENSG00000213077	1,251251251	3,00E-04	<1x10 <sup>4</sup>
RGS13 ENSG00000127074	1,246261216	0,0045	<1x10 <sup>4</sup>
AFF2 ENSG00000155966	1,160092807	0,0036	<1x10 <sup>4</sup>
PPBP ENSG00000163736	1,127649977	0,0067	<1x10 <sup>4</sup>
CD44 ENSG00000026508	1,118943717	0,009	1,00E-04
IFI44L ENSG00000137959	1,98019802	5,00E-04	<1x10 <sup>4</sup>
BVES ENSG00000112276	1,87899286	2,00E-04	<1x10 <sup>4</sup>
TRAT1 ENSG00000163519	1,75070028	0,0012	<1x10 <sup>4</sup>
SCYL2 ENSG00000136021	1,62999185	0,0015	<1x10 <sup>4</sup>
MMP16 ENSG00000156103	1,58755358	0,0078	<1x10 <sup>4</sup>
XAF1 ENSG00000132530	1,57480315	0,0039	<1x10 <sup>4</sup>
ME1 ENSG00000065833	1,52998776	0,0051	<1x10 <sup>4</sup>
MIOS ENSG00000164654	1,52998776	0,0075	<1x10 <sup>4</sup>
FAT4 ENSG00000196159	1,50466446	0,0023	<1x10 <sup>4</sup>
PRKD3 ENSG00000115825	1,50466446	0,0065	<1x10 <sup>4</sup>
STS ENSG00000101846	1,47080453	0,0043	<1x10 <sup>4</sup>
PPARGC1A ENSG00000109819	1,27420999	0,0097	1,00E-04
EDN1 ENSG00000078401	1,26246686	0,0052	<1x10 <sup>4</sup>
KIAA1324L ENSG00000164659	1,5211439	0,0045	<1x10 <sup>4</sup>
TREML2 ENSG00000112195	-1,88	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CRISP3 ENSG00000096006	-2,82	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
RASGRP1 ENSG00000172575	-1,258	0,0078	1,00E-04
YBX3 ENSG00000060138	-1,356	0,0079	1,00E-04
GAGE12J ENSG00000224659	-1,462	0,0018	<1x10 <sup>4</sup>
ZNF675 ENSG00000197372	-1,477	0,0079	1,00E-04
ATF3 ENSG00000162772	-1,527	0,0018	<1x10 <sup>4</sup>
CST7 ENSG00000077984	-1,561	0,0033	<1x10 <sup>4</sup>
PGLYRP1 ENSG00000008438	-1,589	0,0034	<1x10 <sup>4</sup>
TGFB2 ENSG00000092969	-1,761	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
HBA1 ENSG00000206172	-1,823	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
FAM106A ENSG00000213077	-0,7992	0,0014	<1x10 <sup>4</sup>
VCAM1 ENSG00000162692	-1,0351	0,0064	<1x10 <sup>4</sup>
TIMD4 ENSG00000145850	-1,2227	0,0025	<1x10 <sup>4</sup>
C1QC ENSG00000159189	-1,2319	0,0093	1,00E-04

GPRC5D ENSG00000111291	-1,2571	0,0029	<1x10 <sup>4</sup>
RND3 ENSG00000115963	-1,2597	0,0048	<1x10 <sup>4</sup>
PRKG1 ENSG00000185532	-1,2762	0,0033	<1x10 <sup>4</sup>
HIST1H1C ENSG00000187837	-1,2879	0,009	1,00E-04
SLAMF1 ENSG00000117090	-1,3278	0,0048	<1x10 <sup>4</sup>
AC068896.1 ENSG00000258539	-1,3294	0,005	<1x10 <sup>4</sup>
EDEM3 ENSG00000116406	-1,3403	0,0058	<1x10 <sup>4</sup>
APP ENSG00000142192	-1,3467	0,0034	<1x10 <sup>4</sup>
USP9Y ENSG00000114374	-1,3477	0,0052	<1x10 <sup>4</sup>
NBPF6 ENSG00000186086	-1,3478	0,0018	<1x10 <sup>4</sup>
FAM129A ENSG00000135842	-1,3599	7,00E-04	<1x10 <sup>4</sup>
RHOB ENSG00000143878	-1,3605	0,009	1,00E-04
CD79A ENSG00000105369	-1,3773	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
OR2T2 ENSG00000196240	-1,3805	0,0091	1,00E-04
FCRL3 ENSG00000160856	-1,3884	0,0024	<1x10 <sup>4</sup>
CERS6 ENSG00000172292	-1,3906	0,0044	<1x10 <sup>4</sup>
ZNF165 ENSG00000197279	-1,3907	0,0049	<1x10 <sup>4</sup>
OTUD1 ENSG00000165312	-1,3913	0,0033	<1x10 <sup>4</sup>
ATP8B2 ENSG00000143515	-1,4038	0,0091	1,00E-04
FCER2 ENSG00000104921	-1,4069	0,0063	<1x10 <sup>4</sup>
CCL3 ENSG00000277632	-1,4095	2,00E-04	<1x10 <sup>4</sup>
GRIN2B ENSG00000273079	-1,4114	0,0059	<1x10 <sup>4</sup>
SPATA31D3 ENSG00000186788	-1,4157	0,0033	<1x10 <sup>4</sup>
FOS ENSG00000170345	-1,4199	0,0091	1,00E-04
CCL18 ENSG00000275385	-1,4226	0,0075	1,00E-04
LY9 ENSG00000122224	-1,4227	0,0055	<1x10 <sup>4</sup>
GOLPH3L ENSG00000143457	-1,4283	0,0092	1,00E-04
AIF1 ENSG00000204472	-1,4283	0,0098	1,00E-04
KCNN3 ENSG00000143603	-1,4311	0,0059	<1x10 <sup>4</sup>
SLAMF6 ENSG00000162739	-1,4508	7,00E-04	<1x10 <sup>4</sup>
NAXE ENSG00000163382	-1,4514	0,0065	<1x10 <sup>4</sup>
GOLGA8H ENSG00000261794	-1,4549	0,0078	1,00E-04
SEMA4A ENSG00000196189	-1,4562	0,0065	<1x10 <sup>4</sup>
UCHL1 ENSG00000154277	-1,4565	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
JUN ENSG00000177606	-1,4596	0,0091	1,00E-04
SCN9A ENSG00000169432	-1,4612	8,00E-04	<1x10 <sup>4</sup>
TCEA3 ENSG00000204219	-1,4676	0,0056	<1x10 <sup>4</sup>
NUCB2 ENSG00000070081	-1,4683	0,0077	1,00E-04
HIST2H2BE ENSG00000184678	-1,4699	0,001	<1x10 <sup>4</sup>
IRF2BP2 ENSG00000168264	-1,4724	0,005	<1x10 <sup>4</sup>
SELL ENSG00000188404	-1,4735	0,0049	<1x10 <sup>4</sup>
PDIA4 ENSG00000155660	-1,4766	0,0033	<1x10 <sup>4</sup>
RNASE6 ENSG00000169413	-1,4768	0,0033	<1x10 <sup>4</sup>
P2RY13 ENSG00000181631	-1,4777	0,0033	<1x10 <sup>4</sup>
DAPK1 ENSG00000196730	-1,4787	0,0025	<1x10 <sup>4</sup>
SLC46A3 ENSG00000139508	-1,4799	0,0063	<1x10 <sup>4</sup>

CA1 ENSG00000133742	-1,4811	0,0048	<1x10 <sup>4</sup>
MEF2D ENSG00000116604	-1,4863	0,0079	1,00E-04
PLP2 ENSG00000102007	-1,4925	0,0093	1,00E-04
WARS ENSG00000140105	-1,4951	6,00E-04	<1x10 <sup>4</sup>
FCRL5 ENSG00000143297	-1,4984	0,0062	<1x10 <sup>4</sup>
SGK1 ENSG00000118515	-1,5035	0,0049	<1x10 <sup>4</sup>
GSTA4 ENSG00000170899	-1,5075	0,0065	<1x10 <sup>4</sup>
TYROBP ENSG00000011600	-1,5081	0,0041	<1x10 <sup>4</sup>
HIST1H2AL ENSG00000276903	-1,5094	0,006	<1x10 <sup>4</sup>
HLA-DRA ENSG00000204287	-1,5121	0,0033	<1x10 <sup>4</sup>
NCSTN ENSG00000162736	-1,5156	0,0049	<1x10 <sup>4</sup>
S100A11 ENSG00000163191	-1,5233	0,0073	1,00E-04
VNN1 ENSG00000112299	-1,5248	0,0059	<1x10 <sup>4</sup>
CDA ENSG00000158825	-1,5289	0,005	<1x10 <sup>4</sup>
HSBP1L1 ENSG00000226742	-1,5296	0,0036	<1x10 <sup>4</sup>
PADI4 ENSG00000159339	-1,5348	0,0079	1,00E-04
RFLNB ENSG00000183688	-1,5375	0,0011	<1x10 <sup>4</sup>
HOOK1 ENSG00000134709	-1,5377	0,0011	<1x10 <sup>4</sup>
CCND2 ENSG00000118971	-1,5381	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
GAREM1 ENSG00000141441	-1,5389	0,0045	<1x10 <sup>4</sup>
AHSP ENSG00000169877	-1,5438	0,0036	<1x10 <sup>4</sup>
CCND1 ENSG00000110092	-1,5448	0,0013	<1x10 <sup>4</sup>
CD52 ENSG00000169442	-1,5456	0,0028	<1x10 <sup>4</sup>
FCER1G ENSG00000158869	-1,5466	0,0011	<1x10 <sup>4</sup>
ALDH1L2 ENSG00000136010	-1,5591	0,0024	<1x10 <sup>4</sup>
AC136428.1 ENSG00000259680	-1,5608	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
HLA-DMA ENSG00000204257	-1,5635	0,0039	<1x10 <sup>4</sup>
PTGS2 ENSG00000073756	-1,5654	5,00E-04	<1x10 <sup>4</sup>
FCAR ENSG00000186431	-1,5684	0,0035	<1x10 <sup>4</sup>
BPI ENSG00000101425	-1,5805	0,0025	<1x10 <sup>4</sup>
ALAS2 ENSG00000158578	-1,5815	0,0017	<1x10 <sup>4</sup>
ELANE ENSG00000197561	-1,5844	0,0011	<1x10 <sup>4</sup>
ANXA1 ENSG00000135046	-1,5848	7,00E-04	<1x10 <sup>4</sup>
ADA2 ENSG00000093072	-1,5853	0,0013	<1x10 <sup>4</sup>
IGF1R ENSG00000140443	-1,5889	0,0018	<1x10 <sup>4</sup>
SLC7A5 ENSG00000103257	-1,5946	0,0012	<1x10 <sup>4</sup>
OR51A4 ENSG00000205497	-1,5968	0,0021	<1x10 <sup>4</sup>
ALOX5AP ENSG00000132965	-1,6004	0,0019	<1x10 <sup>4</sup>
ZFY ENSG00000067646	-1,6025	2,00E-04	<1x10 <sup>4</sup>
ERAP2 ENSG00000164308	-1,6109	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AGA ENSG00000038002	-1,6127	0,0018	<1x10 <sup>4</sup>
TCN1 ENSG00000134827	-1,6213	0,0033	<1x10 <sup>4</sup>
SGPP2 ENSG00000163082	-1,6238	0,0038	<1x10 <sup>4</sup>
HIST2H2BF ENSG00000203814	-1,6316	5,00E-04	<1x10 <sup>4</sup>
LCN2 ENSG00000148346	-1,6355	0,0011	<1x10 <sup>4</sup>
PLAGL1 ENSG00000118495	-1,6373	0,0018	<1x10 <sup>4</sup>

MS4A3 ENSG00000149516	-1,6445	8,00E-04	<1x10 <sup>4</sup>
ZNF608 ENSG00000168916	-1,6507	0,0011	<1x10 <sup>4</sup>
PTP4A3 ENSG00000184489	-1,6546	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
IL6R ENSG00000160712	-1,6551	2,00E-04	<1x10 <sup>4</sup>
CYBB ENSG00000165168	-1,6687	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
HBA2 ENSG00000188536	-1,6713	4,00E-04	<1x10 <sup>4</sup>
RNASE3 ENSG00000169397	-1,6762	7,00E-04	<1x10 <sup>4</sup>
C1orf21 ENSG00000116667	-1,6764	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
TIMP1 ENSG00000102265	-1,6807	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
SERPINB10 ENSG00000242550	-1,6976	5,00E-04	<1x10 <sup>4</sup>
MPO ENSG00000005381	-1,7059	1,00E-04	<1x10 <sup>4</sup>
RNASE2 ENSG00000169385	-1,7062	2,00E-04	<1x10 <sup>4</sup>
MAL ENSG00000172005	-1,7142	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
DUSP10 ENSG00000143507	-1,7194	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AC008770.2 ENSG00000257355	-1,7321	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CTSG ENSG00000100448	-1,7513	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
MYADM ENSG00000179820	-1,7529	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CST3 ENSG00000101439	-1,7774	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
EIF1AY ENSG00000198692	-1,7776	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
MMP9 ENSG00000100985	-1,7797	5,00E-04	<1x10 <sup>4</sup>
LYZ ENSG00000090382	-1,7816	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
ANXA3 ENSG00000138772	-1,7838	1,00E-04	<1x10 <sup>4</sup>
RASD1 ENSG00000108551	-1,8009	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
HBB ENSG00000244734	-1,8046	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
PLTP ENSG00000100979	-1,8055	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
PARP15 ENSG00000173200	-1,8187	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
C16orf54 ENSG00000185905	-1,8306	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
DOCK11 ENSG00000147251	-1,8377	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
ORM1 ENSG00000229314	-1,8525	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CAMP ENSG00000164047	-1,8581	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
S100A8 ENSG00000143546	-1,8736	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
MNDA ENSG00000163563	-1,8818	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
PLBD1 ENSG00000121316	-1,8968	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
SPN ENSG00000197471	-1,9212	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
KDM5D ENSG0000012817	-1,9594	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
TSPAN6 ENSG00000000003	-2,0533	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
P2RX1 ENSG00000108405	-2,0849	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
UTY ENSG00000183878	-2,0884	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
OLFM4 ENSG00000102837	-2,1122	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CEACAM8 ENSG00000124469	-2,1799	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
VPREB3 ENSG00000128218	-2,2277	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
ZNF681 ENSG00000196172	-2,2424	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
DEFA4 ENSG00000164821	-2,3089	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
S100A9 ENSG00000163220	-2,3698	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CD27 ENSG00000139193	-2,3818	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
LTF ENSG00000012223	-2,3818	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>

DDX3Y ENSG00000067048	-2,4111	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
S100A12 ENSG00000163221	-2,5974	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CDR1 ENSG00000184258	-2,6349	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
MMP8 ENSG00000118113	-2,6568	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
CRISP3 ENSG00000096006	-2,82	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>

**Supplementary Table 2:** 65 long non-coding genes differentially expressed in P-SMM versus NP-SMM CD138+ samples. In the table, the 7 most variable genes with a least 2 absolute fold change expression variation are highlighted in light blue.

Gene symbol -ENSG	Fold Change (class SMM-P vs SMM-NP)	Pfp (<1%)	Approximate P.value
AC012414.5 ENSG00000260409	2,822466836	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
XIST ENSG00000229807	2,811357886	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AC092611.2 ENSG00000251603	2,225189141	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AL138899.1 ENSG00000176320	2,138122728	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AL390208.1 ENSG00000271730	2,133105802	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AL391834.1 ENSG00000272842	2,030869212	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
DUXAP8 ENSG00000206195	1,944390434	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
LINC02024 ENSG00000241213	1,94024059	0,001	<1x10 <sup>4</sup>
NPTN-IT1 ENSG00000281183	1,911680367	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
LINC01480 ENSG00000270164	1,908396947	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AF127936.2 ENSG00000232884	1,897173212	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
NAV2-IT1 ENSG00000255270	1,706484642	0,001	<1x10 <sup>4</sup>
AP000756.1 ENSG00000255183	1,693766938	0,0077	<1x10 <sup>4</sup>
AC006058.1 ENSG00000261786	1,691474966	6,00E-04	<1x10 <sup>4</sup>
AC124290.1 ENSG00000253524	1,66002656	0,0035	<1x10 <sup>4</sup>
AC092691.1 ENSG00000239268	1,653165813	0,0079	<1x10 <sup>4</sup>
RSF1-IT2 ENSG00000254985	1,638269987	0,0042	<1x10 <sup>4</sup>
AC007326.5 ENSG00000284294	1,636929121	0,0029	<1x10 <sup>4</sup>
AL158206.1 ENSG00000260912	1,634788295	0,0039	<1x10 <sup>4</sup>
DISC1FP1 ENSG00000261645	1,623903865	0,0081	<1x10 <sup>4</sup>
AC012485.3 ENSG00000283635	1,570105197	0,0062	<1x10 <sup>4</sup>
FAM74A1 ENSG00000215112	1,550147264	0,0027	<1x10 <sup>4</sup>
AC090970.1 ENSG00000259398	1,541307028	0,0087	<1x10 <sup>4</sup>
LARGE-IT1 ENSG00000232081	1,531159087	0,0089	<1x10 <sup>4</sup>
AC010931.2 ENSG00000248540	1,521606817	0,0097	<1x10 <sup>4</sup>
AL139351.1 ENSG00000276923	1,500150015	0,0058	<1x10 <sup>4</sup>
AC020978.8 ENSG00000263276	1,449485433	0,0104	<1x10 <sup>4</sup>
PWAR6 ENSG00000257151	1,444251878	0,0082	<1x10 <sup>4</sup>
LINC01484 ENSG00000253686	1,43000143	0,0106	<1x10 <sup>4</sup>
AC007684.1 ENSG00000273035	1,357404642	0,0099	<1x10 <sup>4</sup>
AC025031.3 ENSG00000274591	1,35501355	0,0087	<1x10 <sup>4</sup>
AL353753.1 ENSG00000276759	1,3374348	0,0093	<1x10 <sup>4</sup>

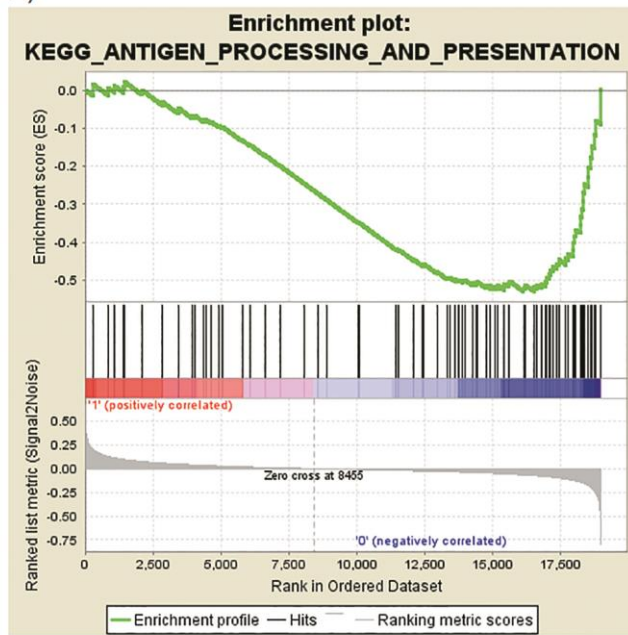


AC106882.1 ENSG00000248571	1,323977228	0,0096	<1x10 <sup>4</sup>
AC099793.1 ENSG00000259815	1,313887794	0,0102	<1x10 <sup>4</sup>
AL022067.1 ENSG00000269919	1,254862593	0,0097	<1x10 <sup>4</sup>
AC107983.2 ENSG00000273018	1,156203029	0,0062	<1x10 <sup>4</sup>
LINC01055 ENSG00000235366	1,155134573	0,0104	<1x10 <sup>4</sup>
AL078639.1 ENSG00000281508	-4,1746	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AC245128.3 ENSG00000268734	-1,8731	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
Z93241.1 ENSG00000270022	-1,8142	<1x10 <sup>4</sup>	<1x10 <sup>4</sup>
AC092279.1 ENSG00000268362	-1,7979	5,00E-04	<1x10 <sup>4</sup>
AC136475.8 ENSG00000270105	-1,7237	8,00E-04	<1x10 <sup>4</sup>
LINC00582 ENSG00000229228	-1,6621	0,0021	<1x10 <sup>4</sup>
AC012313.7 ENSG00000269106	-1,6412	0,0012	<1x10 <sup>4</sup>
AC087463.3 ENSG00000261598	-1,5986	7,00E-04	<1x10 <sup>4</sup>
AC103591.3 ENSG00000273338	-1,5945	4,00E-04	<1x10 <sup>4</sup>
AP001330.5 ENSG00000271882	-1,5859	0,0017	<1x10 <sup>4</sup>
AC092120.2 ENSG00000261692	-1,5822	0,002	<1x10 <sup>4</sup>
HYMAI ENSG00000283122	-1,5637	0,0094	<1x10 <sup>4</sup>
AC007032.1 ENSG00000273320	-1,5502	0,0022	<1x10 <sup>4</sup>
AC007556.1 ENSG00000235321	-1,5454	7,00E-04	<1x10 <sup>4</sup>
AC009812.4 ENSG00000260317	-1,4977	0,0016	<1x10 <sup>4</sup>
AC008074.3 ENSG00000260101	-1,4782	0,0022	<1x10 <sup>4</sup>
AC008440.2 ENSG00000232220	-1,4702	0,0013	<1x10 <sup>4</sup>
CYTOR ENSG00000222041	-1,4344	0,0051	<1x10 <sup>4</sup>
AC016831.5 ENSG00000271204	-1,4223	0,01	<1x10 <sup>4</sup>
TTY15 ENSG00000233864	-1,414	0,0014	<1x10 <sup>4</sup>
AC245041.2 ENSG00000276850	-1,4135	0,0052	<1x10 <sup>4</sup>
AC104248.1 ENSG00000253796	-1,412	0,0021	<1x10 <sup>4</sup>
AC017002.1 ENSG00000224959	-1,3805	0,0018	<1x10 <sup>4</sup>
AL449106.1 ENSG00000273062	-1,3769	0,0076	<1x10 <sup>4</sup>
AC026369.3 ENSG00000256948	-1,3674	6,00E-04	<1x10 <sup>4</sup>
LINC02085 ENSG00000214407	-1,3353	0,0098	<1x10 <sup>4</sup>
AP000240.1 ENSG00000273017	-1,3253	0,0038	<1x10 <sup>4</sup>
AC010889.1 ENSG00000260197	-1,2938	0,0051	<1x10 <sup>4</sup>

## **SUPPLEMENTARY FIGURE**

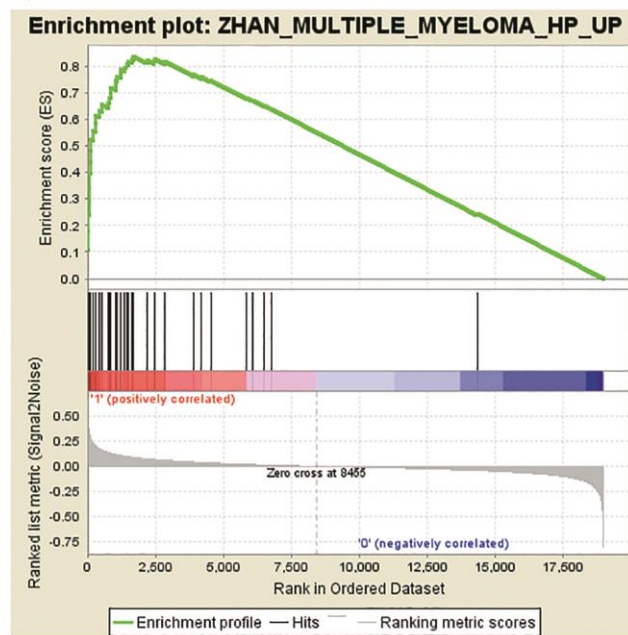
**Supplementary Figure 1.** Enrichment plots derived from Gene Set Enrichment Analysis (GSEA) in P-SMM (group 1) versus NP-SMM (group 0) samples **A)** Antigen processing and presentation gene set enrichment plot in Kyoto Encyclopedia of Genes and Genomes (KEGG) pathway database **B)** Enrichment plots of genes sets associated with proliferation and hyperdiploidy in MM according to Zahn et al.<sup>1</sup> NES: normalized enrichment score; Nom *p*-value: Nominal *p*-Value.

A)

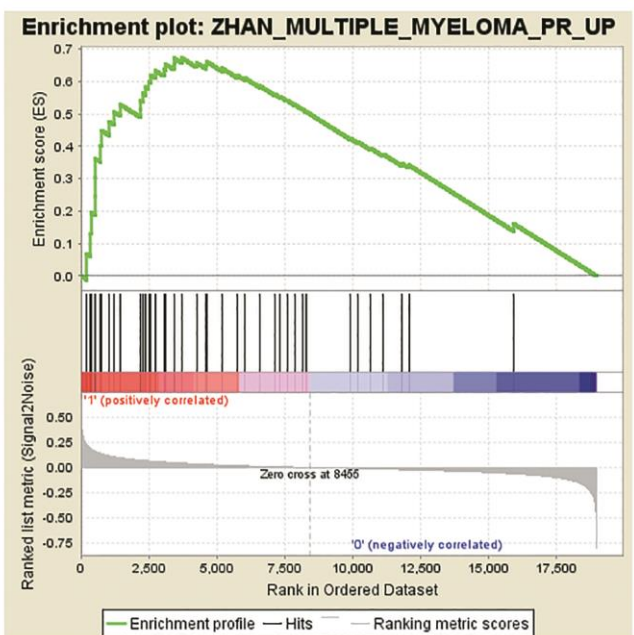


NES	NOM p-value
-1.44	0.000

B)

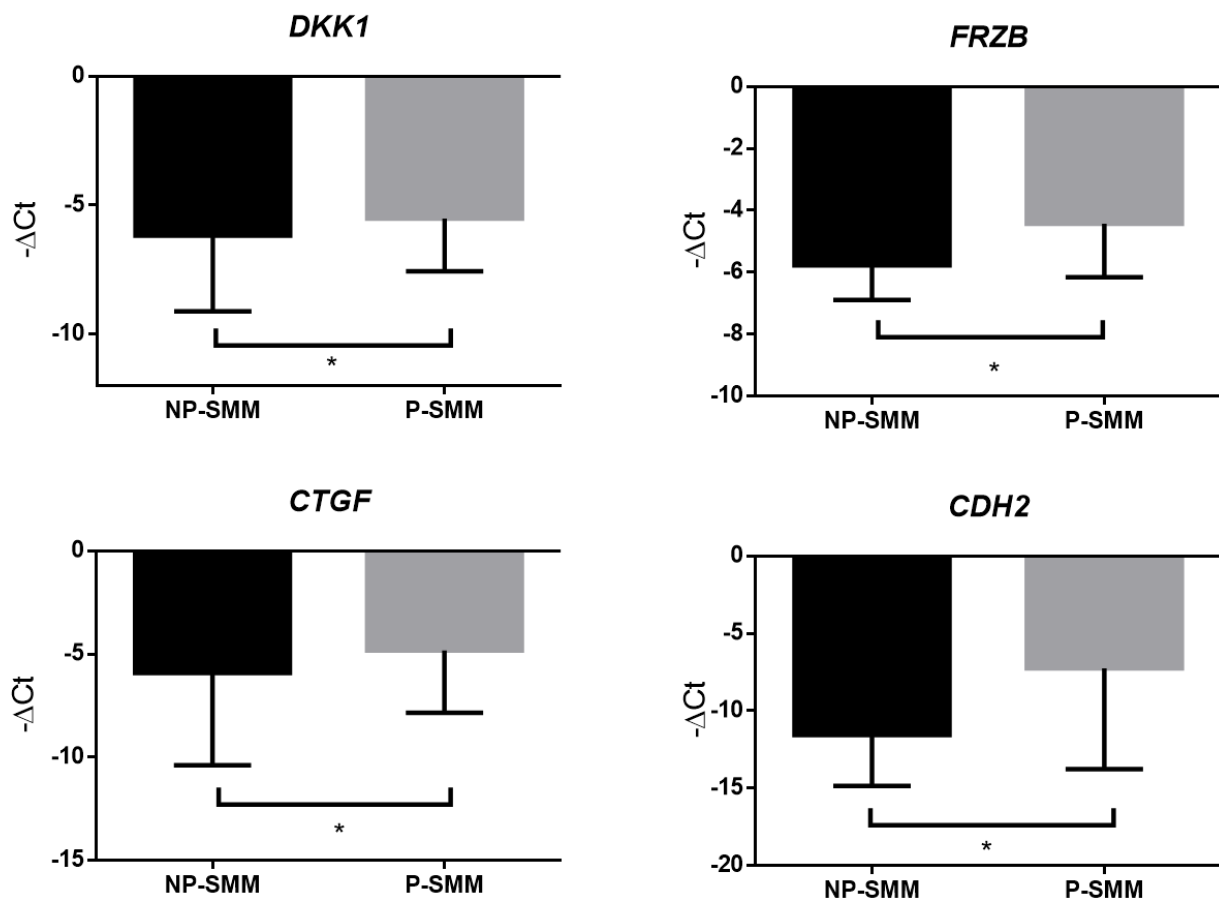


NES	Nom p-value
1.53	0.000

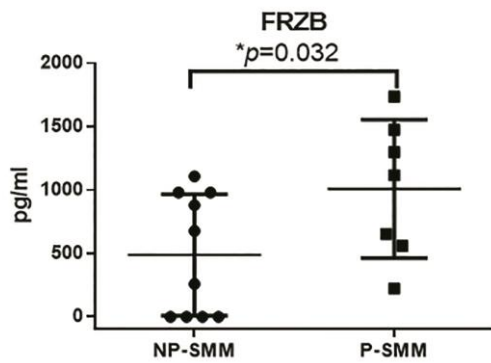


NES	Nom p-value
1.76	0.000

**Supplementary Figure 2.** The expression of *DKK1*, *FRZB*, *CTGF* and *CDH2* mRNA were evaluated by Real-time PCR in BM CD138+ cells of the same patients' cohort of the gene expression analyses. Graphs represent median with range of  $-\Delta\text{Ct}$  (cycle threshold). Fold change was calculated of P-SMM patients versus NP-SMM assuming median  $\Delta\text{Ct}$  of NP-SMM group as control condition (fold change. *DKK1*=1,58; *FRZB*=1,61; *CTGF*=2,14; *CDH2*=19,56). *GAPDH* was used as housekeeping gene and  $2^{-\Delta\Delta\text{Ct}}$  method was used to calculate the fold change. (\*= fold change >1,5)



**Supplementary Figure 3.** BM plasma samples of the same patient cohort, when available (7 P-SMM and 10 NP-SMM), were tested by ELISA for FRZB protein. Graphs represent the median value and the interquartile range, reported as pg/ $\mu$ g. The statistical analysis was performed by Mann-Whitney test.



## REFERENCE

1. Zhan F, Huang Y, Colla S, Stewart JP, Hanamura I, Gupta S, *et al.* The molecular classification of multiple myeloma. *Blood* 2006 Sep 15; **108**(6): 2020-2028.