

Table S6: Diseases enriched among down-regulated genes in the “1,25D-all” Cormotif pattern at a FDR < 0.05. **B-H p-value*** = Benjamini-Hochberg multiple testing corrected p-value.

Disease Category	B-H p-value*	Genes down-regulated in “1,25D-all” Cormotif pattern
Inflammatory Response	6.24 x 10 ⁻⁵	<i>DPYSL2, GAS6, SGK1, DUSP3, TMSB10/TMSB4X, ICOSLG/LOC102723996, CFL1, RRAS, PLEC, ANXA2, RAP1A, ABCA7, OGG1, MTMR4, CAPN1, ALCAM, PIK3CD, ARH GAP1, ACTG1, CNN2, HAMP, RAB32, POU2F2, PRDX1, IL21R, HYOU1, TNFSF10, MMP25, ANPEP, DUSP2, SASH3, TNFSF12, DOCK2, ORAI1, RNASE2, C12orf4, IFNG R2, GNAQ, TOB1, CD58, NRROS, KIAA0226, GPR183, ABHD6, GNAI3, LY96, WAS, IMPDH1, TNFSF13, RBPJ, ARHGDIA, CD81, CH25H, RGS1, HYAL2, NAGK, TNFRSF4, PFN1, IDI1, IL12RB1, HSPA5, CD300A, RHOB, LTBR, SH3KBP1, STK17B, S100A10, NBEAL2, P4HB, IL2RG, PTPN6, BMP2K, MAL T1, NFKBID, FZD5, MGAT2, ABCD1, SPRED1, CCL24, OTULIN, HSP90B1, CCDC88A, AHNAK, DUSP10, CD22, PRKCA, TPMT, CALR, NAIP, IRF4, PRMT2, AP3D1, SMAD7, SOD1, PLXND1, TNFRSF14, BTK, ZBTB46, CORO1A, TLR6, CTSC, DNM1L, LGALS1, MSN</i>
Immunological Disease	1.55 x 10 ⁻³	<i>RFXANK, CD81, DPYSL2, RGS1, NAGK, TNFRSF4, IDI1, IL12RB1, GAS6, SGK1, PTTG1, DDB2, HSPA5, RB1, SEC24D, RHOB, OLIG2, XPO1, LTBR, ICOSLG/LOC102723996, STK17B, NBEAL2, P4HB, IL2RG, PTPN6, CFL1, RRAS, DLEU2, TSPAN33, MAL T1, ARHGDIB, ABCA7, OGG1, DVL2, MTMR4, CAPN1, CECR6, BTG2, RASSF4, ALCAM, PIK3CD, ARHGAP1, ACTG1, POU2F2, PRDX1, IL21R, DAGLA, TNFSF10, DUSP2, TFC37, AHNAK, TNFSF12, DUSP10, DOCK2, EAF2, CD22, PALD1, BLM, ORAI1, PRKCA, CALR, ATP1B1, IRF4, TGFB1, SMAD7, IFNGR2, TOB1, CD58, SOD1, TNFRSF14, BTK, ZBTB46, CRELD2, SIRT2, MUM1, WAS, TNFSF13, TLR6, CORO1A, ARHGDIA, RBPJ, FEN1, DNM1L, SEPT6, MSN, LGALS1</i>
Inflammatory Disease	1.55 x 10 ⁻³	<i>TNFRSF4, GAS6, IL21R, TNFSF10, HSPA5, HSP90B1, DUSP10, LTBR, STK17B, PRKCA, CALR, NBEAL2, IL2RG, PTPN6, IRF4, RRAS, SMAD7, TOB1, TSPAN33, SOD1, ABCA7, TNFRSF14, BTK, CORO1A, ALCAM, RBPJ, LGALS1</i>
Neurological Disease	1.55 x 10 ⁻³	<i>SPRED1, PFN1, TNFRSF4, VPS35, GAS6, IL21R, CWF19L1, TNFSF10, SETX, HSPA5, HSP90B1, FANCD2, DUSP10, DHTKD1, FGD4, LTBR, RTN2, STK17B, PRKCA, CALR, IL2RG, IRF4, TGFB1, RRAS, GNAQ, TOB1, LRSAM1, LZTR1, SOD1, TNFRSF14, KIAA0226, SLC33A1, CORO1A, ALCAM, RBPJ, LGALS1</i>
Hematological Disease	4.78 x 10 ⁻³	<i>HYAL2, TNFRSF4, SGK1, GAS6, PTTG1, DDB2, HSPA5, RB1, SEC24D, RHOB, OLIG2, XPO1, LTBR, STK17B, NBEAL2, IL2RG, CFL1, DLEU2, TSPAN33, ANXA2, MAL T1, ABCA7, OGG1, DVL2, MTMR4, CECR6, CAPN1, BTG2, RASSF4, PIK3CD, ACTG1, ARHGAP1, POU2F2, PRDX1, IL21R, TNFSF10, DAGLA, MKL1, HSP90B1, DUSP10, EAF2, DOCK2, CD22, PALD1, BLM, TPMT, IRF4, TGFB1, IFNGR2, CD58, SOD1, TNFRSF14, BTK, CRELD2, SIRT2, WAS, MUM1, TLR6, FEN1, DNM1L, SEPT6, LGALS1</i>
Hereditary Disorder	2.32 x 10 ⁻²	<i>RFXANK, PFN1, VPS35, PTTG1, CWF19L1, SETX, HSPA5, HSP90B1, AHNAK, TNFSF12, DOCK2, DHTKD1, FGD4, RTN2, ORAI1, CALR, IL2RG, PTPN6, TGFB1, PLEC, LRSAM1, SOD1, ARHGDIB, KIAA0226, BTK, SLC33A1, IMPDH1, PIK3CD, ARHGDIA, ARHGAP1</i>
Hypersensitivity Response	3.52 x 10 ⁻²	<i>BTK, IL2RG, TNFRSF4, MTMR4, WAS, CAPN1, CORO1A, C12orf4, PIK3CD, DUSP2, CD300A, ORAI1</i>
Cancer	3.52 x 10 ⁻²	<i>CD81, TUBA1B, PHLDA1, ARHGAP26, TNFRSF4, GAS6, NDRG2, SGK1, PTTG1, KLF6, MCUR1, DDB2, POTE (includes others), HSPA5, CACYBP, VASH1, RB1, SEC24D, RHOB, OLIG2, DHTKD1, XPO1, LTBR, PLCL1, TMSB10/TMSB4X, ICOSLG/LOC102723996, STK17B, S100A10, NBEAL2, PTPN6, IL2RG, CFL1, DLEU2, PLEC, TSPAN33, SIPA1L2, ANXA2, ARHGDIB, ABCA7, OGG1, DVL2, MTMR4, TES, CECR6, BTG2, RASSF4, KIDINS220, ALCAM, KLHL12, PIK3CD, ACTG1, EMILIN2, POU2F2, PRDX1, IL21R, HMGN1, HYOU1, DAGLA, TN</i>

		<i>FSF10, MKL1, ANPEP, USO1, CCDC88A, HSP90B1, ACTR3, FANCD2, TNFSF12, DOCK2, EAF2, CD22, PALD1, BLM, PRKCA, ORAI1, CALR, IRF4, MAP3K6, TGFBI, DROSHA, SMAD7, CD58, SOD1, TNFRSF14, BTK, LACC1, ZBTB46, CRELD2, SIRT2, WAS, MUM1, IMPDH1, TNFSF13, TLR6, FEN1, DNM1L, CTSC, SEPT6, LGALS1</i>
Organismal Injury and Abnormalities	3.52 x 10 ⁻²	<i>TUBA1B, GAS6, SGK1, DDB2, CACYBP, RB1, SEC24D, OLIG2, TMSB10/TMSB4X, PCL1, ICOSLG/LOC102723996, CFL1, PLEC, ANXA2, SIPA1L2, TSPAN33, ABCA7, OGG1, ARHGDIB, DVL2, MTMR4, BTG2, KIDINS220, ALCAM, PIK3CD, ARHGAP1, ACTG1, EMILIN2, PRDX1, POU2F2, IL21R, HMG1, HYOU1, TNFSF10, DAGLA, ANPEP, SASH3, USO1, ACTR3, TNFSF12, DOCK2, PALD1, ORAI1, TGFBI, DROSHA, GNAQ, TOB1, CD58, ZG16B, MUM1, WAS, TNFSF13, IMPDH1, ARHGDIA, FEN1, RBPJ, CD81, PHLDA1, TNFRSF4, ARHGAP26, NDRG2, PTTG1, KLF6, MCUR1, POTEG (includes others), HSPA5, VASH1, RHOB, DHTKD1, XPO1, LTBR, STK17B, S100A10, NBEAL2, PTPN6, IL2RG, DLEU2, LZTR1, TES, CECR6, RASSF4, KLHL12, SPRED1, MKL1, CCDC88A, HSP90B1, FANCD2, EAF2, CD22, BLM, PRKCA, CALR, IRF4, MAP3K6, SMAD7, SOD1, TNFRSF14, BTK, LACC1, CRELD2, ZBTB46, SIRT2, TLR6, ARHGAP31, DNM1L, CTSC, SEPT6, LGALS1</i>
Skeletal and Muscular Disorders	4.43 x 10 ⁻²	<i>CD81, CALR, RB1, HSP90B1, AHNAK, RRAS, PLEC, HSPA5, NDN</i>
Developmental Disorder	4.64 x 10 ⁻²	<i>RFXANK, CALR, IL2RG, SPRED1, TGFBI, PTTG1, GNAQ, LZTR1, HSPA5, ARHGDIB, SASH3, BTK, HSP90B1, WAS, DOCK2, ARHGAP31, RBPJ, PIK3CD, ARHGDIA, ARHGAP1, ORAI1, PRKCA</i>