

Supplemental Material

Table S1. Adipose tissue samples real-time PCR primer sequences.

Gene	Forward primer	Reverse Primer
Adiponectin	ATCGGTGAAACCGGAGTACC	GCATGTTGGGGATAGTAACGTAA
CD68	GCTGGCTGTGCTTTTCTCG	GTCACCGTGAAGGATGGCA
CD68(2)	CTTCTCTCATTCCTATGGACA	GAAGGACACATTGTACTCCACC
IL-18	GGCCTCTATTTGAAGATATGACTGATT	CCTCTAGGCTGGCTATCTTTATACATACT
IL-18bp	ATGAGACACAACCTGGACACCA	GCCAGGTCACCTCCAATGC
IL-18R β	CCACAGTTACTTGGAGAGGCTTAAA	GGCATGTGGTAGCGCATT
IL-1 α	ATCATGTAAGCTATGGCCCACT	CTTCCCGTTGGTTGCTACTAC
IL-1Ra	GCCTCCGCAGTCACCTAAT	TCCCAGATTCTGAAGGCTTG
IL-37	CAGCCTCTGCGGAGAAAGGAAGT	GTTTCTCCTTCTTCAGCTGAAGGGATGGAT
Leptin	GGTTGCAAGGCCCAAGAA	ACATAGAAAAGATAGGGCCAAAGC
MCP-1	CCAGTCACCTGCTGTTATAAC	TGGAATCCTGAACCCACTTCT
RPL37A	TAATACGACTCACTATAGGCTTTCTGGGCTC	TCTTCATGCAGGAACACAG
TNF	CTCTTCTGCCTGCTGCACTTTG	ATGGGCTACAGGCTTGTCCTC

Table S2 (see separate Excel file). List of 24 genes sequenced and known clonal hematopoiesis hotspots.

Table S3 (see separate Excel file). single-molecule Molecular Inversion Probes (smMIP).

Table S4 (see separate Excel file). Variant characteristics of candidate clonal hematopoiesis driver mutations in this study.

Table S5. ELISA kits.

Description	Manufacturer	Manufacturer ID	Antibody registry
Human IL-1 β ELISA kit	R&D systems	DY201	AB 2848158
Human IL-6 ELISA kit	Sanquin	M9316	AB 10851499
Human TNF- α ELISA kit	R&D systems	DY210	AB 2848160
Human IL-22 ELISA kit	R&D systems	DY782	AB 2928043
Human IL-17 ELISA kit	R&D systems	DY317	AB 2928042
Human IFN γ ELISA kit	Sanquin	M9333	AB 2934300
Human IL-1Ra ELISA kit	R&D systems	DRA00B	AB 2916104
Human Resistin ELISA kit	R&D systems	DY1359	AB 2893494
Human Leptin ELISA kit	R&D systems	DY398	AB 2861156
Human Adiponectin ELISA kit	R&D systems	DY1065	AB 2861158
Human AAT ELISA kit	R&D systems	DY1268	AB 2934301
Human IL-1Ra ELISA kit	R&D systems	DY280	AB 2934302
Human IL-18BP ELISA kit	R&D systems	DBP180	AB 2934303
Human hsCRP ELISA kit (Plasma)	R&D systems	DY1707	AB 2928088
Human IL-18 ELISA kit	Simple plex (Biotechne / R&D)	SPCKB-PS-000501	Multi-analyte cartridges no antibody registry ID
Human IL-6 ELISA kit (Plasma)	Simple plex (Biotechne / R&D)	SPCKB-PS-000190	
Human VEGF ELISA kit (Plasma)	Simple plex (Biotechne / R&D)	SPCKB-PS-000330	
Human IL-1 β (plasma)	Simple plex (Biotechne / R&D)	SPCKB-PS-000216	

Table S6. Baseline characteristics of men separated according to CHDM status.

	No CHDM (n=124)	All CHDM (n=39)	High VAF (n=15)	Low VAF (n=24)	Cor. VAF
Age (years)	66 (62-70)	67 (63-71)	72 (67-77)*	65 (63-69)	0.33
BMI (kg/m ²)	30 (28.2-32)	30.3 (28.3-32.2)	30 (28.9-30.6)	30.8 (28.2-32.8)	-0.18
Creatinine (μmol/L)	87 (80-95)	88 (81-93)	88 (84-93)	86 (79-93)	-0.067
Glucose (mmol/L)	5.5 (5.1-6)	5.4 (5-5.9)	5.4 (5.2-5.6)	5.5 (5-6.2)	-0.16
Total cholesterol (mmol/L)	5.9 (5.3-6.8)	6 (4.8-6.7)	5.3 (4.7-6.4)	6.1 (4.9-6.8)	-0.1
Triglycerides (mmol/L)	1.7 (1.2-2.2)	1.5 (1.3-1.9)	1.4 (1.4-1.8)	1.5 (1.3-2)	0.0081
Heart rate	61 (54-67)	64 (57-72)	61 (52-64)	67 (61-75)*	-0.39
Antihypertensives (%)	49	39	47	33	
Lipid lowering drugs (%)	33	23	13	29	
Antidiabetic drugs (%)	12	5		8	

BMI: body mass index. All data are given as median (interquartile ranges 1-3). *indicates p<0.05 compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient.

Table S7. Baseline characteristics of women separated according to CHDM status.

	No CHDM (n=88)	All CHDM (n=46)	High VAF (n=18)	Low VAF (n=28)	Cor. VAF
Age (years)	67 (64-71)	68 (63-74)	64 (63-71)	68 (65-74)	-0.22
BMI (kg/m ²)	30 (28.6-31.9)	29.6 (28.2-31.9)	30.4 (28-32.5)	29.4 (28.4-31.2)	0.1
Creatinine (μmol/L)	67 (63-76)	70 (63-76)	70 (65-72)	72 (61-80)	-0.21
Glucose (mmol/L)	5.4 (5-5.9)	5.4 (4.9-6)	5.4 (5-6.3)	5.2 (5-6)	0.2
Total cholesterol (mmol/L)	6.6 (6-7.3)	6.4 (5.7-7)	6.7 (5.8-6.9)	6.4 (5.8-7.2)	-0.1
Triglycerides (mmol/L)	1.6 (1.3-2.1)	1.5 (1.3-2.2)	1.5 (1.3-2.1)	1.5 (1.3-2.3)	-0.087
Heart rate	62 (57-68)	63.5 (59-69)	65 (59-72)	63 (53-67)	0.025
Antihypertensives (%)	44	41	56	32	
Lipid lowering drugs (%)	21	26	22	29	
Antidiabetic drugs (%)	6	9	11	7	

BMI: body mass index. All data are given as median (interquartile ranges 1-3). *indicates p<0.05 compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient.

Table S8. The association between adipose tissue inflammation and CHDM status of the entire study cohort.

	No CHDM (n=212)	All CHDM (n=85)	High VAF (n=33)	Low VAF (n=52)	Cor. VAF
no. CLS/fields	0.06 (0-0.12)	0.06 (0-0.12)	0.07 (0-0.1)	0.06 (0-0.12)	0.06
no. Adipocytes/fields	20.2 (18.1-22.8)	19.7 (17.7-23.9)	19.8 (18.1-23)	19.7 (17.3-25.6)	0.11
no. CD68/fields	2.3 (1.6-3.2)	2.2 (1.7-3.3)	2.1 (1.8-3.2)	2.2 (1.6-3.3)	0.096
% CD68	11.2 (8.2-15.8)	11.5 (8.9-15.8)	11 (9.3-14.7)	11.5 (8-16.3)	0.071
Area (Median)	2250.21 (1844.29- 2718)	2234 (1853.3- 2696.5)	2224.5 (1929.7- 2601.1)	2238.5 (1829.7- 2776)	0.035
Feretmin (Median)	47.2 (42.1-52.5)	47.1 (43.2-51.4)	47.4 (43.5-51.2)	47.1 (42.3-51.6)	0.042
Area (Mean)	3199.1 (2729- 3779.4)	3282.1 (2761.9- 3698.2)	3257.1 (2853.4- 3576.5)	3285.5 (2738.8- 3858.3)	-0.0013
SQ leptin	0.06 (0.04-0.1)	0.07 (0.05-0.1)	0.07 (0.05-0.1)	0.07 (0.05-0.2)	0.057
SQ IL-18R β	0.06 (0.02-0.2)	0.07 (0.03-0.2)	0.04 (0.03-0.2)	0.1 (0.03-0.3)	-0.014
SQ IL-1 α	0.05 (0.01-0.14)	0.07 (0.02-0.2)	0.04 (0.02-0.1)	0.1 (0.03-0.3)	-0.01
SQ MCP1	0.06 (0.04-0.09)	0.06 (0.04-0.1)	0.05 (0.04-0.07)	0.07 (0.04-0.1)	-0.14
SQ IL-37	0.04 (0.009-0.1)	0.05 (0.02-0.2)	0.03 (0.02-0.09)	0.09 (0.01-0.24)	-0.014
SQ CD68	0.07 (0.03-0.14)	0.08 (0.03-0.18)	0.05 (0.03-0.1)	0.11 (0.05-0.23)*	-0.11
SQ CD68(2)	0.05 (0.02-0.17)	0.07 (0.02-0.23)	0.04 (0.02-0.1)	0.11 (0.03-0.27)	-0.051
SQ Adiponectin	0.08 (0.04-0.14)	0.09 (0.04-0.18)	0.06 (0.04-0.12)	0.1 (0.06-0.22)*	-0.16
SQ TNF	0.04 (0.01-0.15)	0.05 (0.02-0.18)	0.03 (0.02-0.11)	0.1 (0.02-0.25)*	-0.026
SQ IL-18	0.19 (0.099-0.37)	0.16 (0.096-0.27)	0.16 (0.1-0.24)	0.18 (0.09-0.29)	0.07
SQ IL-18Bp	0.03 (0.005-0.36)	0.04 (0.01-0.54)	0.09 (0.01-0.89)	0.04 (0.01-0.33)	0.04
SQ IL-1RA	0.04 (0.02-0.11)	0.04 (0.01-0.09)	0.03 (0.02-0.07)	0.04 (0.01-0.18)	-0.038

CLS: Crown-like structure, SQ: starting quantity, CD68 gene expression measured with 2 primers

All data are given as median (interquartile ranges 1-3). *indicates $p < 0.05$ compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient.

Table S9. Leukocyte numbers and differentiation, and thrombocyte numbers according to CHDM status of men.

	No CHDM (n=124)	All CHDM (n=39)	High VAF (n=15)	Low VAF (n=24)	Cor. VAF
Leukocytes 10 ⁹ /l	6 (5-6.7)	6.3 (5.7-7.4)*	6.4 (5.9-7.5)	6.2 (5.6-7.4)	0.18
Neutrophils 10 ⁹ /l	3.2 (2.7-3.8)	3.6 (2.9-4.8)*	4 (3.4-4.7)*	3.4 (2.7-4.7)	0.2
Lymphocytes 10 ⁹ /l	1.8 (1.5-2.2)	1.8 (1.6-2.1)	1.7 (1.4-2)	1.9 (1.6-2.3)	0.013
Monocytes 10 ⁹ /l	0.5 (0.4-0.6)	0.6 (0.5-0.7)	0.6 (0.5-0.7)	0.5 (0.5-0.7)	0.028
Eosinophils 10 ⁹ /l	0.2 (0.1-0.2)	0.2 (0.1-0.3)	0.1 (0.1-0.3)	0.2 (0.1-0.3)	-0.02
Basophils 10 ⁹ /l	0.03 (0.02-0.04)	0.03 (0.03-0.05)*	0.03 (0.03-0.05)*	0.03 (0.02-0.04)	0.07
Thrombocytes 10 ⁹ /l	217 (188-244)	208 (193-254)	215 (199-272)	206 (190-246)	0.31
NLR	1.8 (1.4-2.3)	2 (1.6-2.5)	2.3 (1.9-2.7)*	1.8 (1.2-2.4)	0.18

NLR: Neutrophil to lymphocyte ratio

All data are given as median (interquartile ranges 1-3). *indicates p<0.05 compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient.

Table S10. Leukocyte numbers and differentiation, and thrombocyte numbers according to CHDM status of women.

	No CHDM (n=88)	All CHDM (n=46)	High VAF (n=18)	Low VAF (n=28)	Cor. VAF
Leukocytes 10 ⁹ /l	5.5 (5-6.3)	5.9 (5-7.2)	6.2 (5-7.3)	5.8 (5.1-6.9)	0.18
Neutrophils 10 ⁹ /l	3.1 (2.6-3.6)	3.2 (2.6-3.9)	3.2 (2.5-3.9)	3.1 (2.7-3.9)	0.14
Lymphocytes 10 ⁹ /l	1.9 (1.5-2.3)	2 (1.6-2.3)	2.1 (1.7-2.3)	1.9 (1.5-2.3)	0.2
Monocytes 10 ⁹ /l	0.4 (0.4-0.5)	0.5 (0.4-0.6)	0.5 (0.4-0.6)	0.4 (0.4-0.5)	0.27
Eosinophils 10 ⁹ /l	0.1 (0.1-0.2)	0.2 (0.1-0.3)	0.2 (0.1-0.3)	0.2 (0.1-0.2)	0.035
Basophils 10 ⁹ /l	0.03 (0.02-0.04)	0.03 (0.02-0.04)	0.03 (0.02-0.04)	0.03 (0.02-0.04)	-0.046
Thrombocytes 10 ⁹ /l	247 (216-283)	247 (215-275)	247 (205-280)	248 (226-272)	-0.024
NLR	1.5 (1.3-2)	1.7 (1.3-2)	1.5 (1.3-1.8)	1.8 (1.4-2)	-0.13

NLR: Neutrophil to lymphocyte ratio

All data are given as median (interquartile ranges 1-3). *indicates p<0.05 compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient.

Table S11. *Ex vivo* cytokine production capacity of PBMCs separated according to CHDM status of men.

	No CHDM (n=124)	All CHDM (n=39)	High VAF (n=15)	Low VAF (n=24)	Cor. VAF
LPS(10 ng/ml)	1029.7	1116.9	1258.9	1099.07 (597.29-	
IL-1 β	(543.3-1732)	(589-1657.3)	(602.1-1637.)	1630.78)	-0.0086
LPS(100 ng/ml)	2351.1	2809.6	2894.8	2491.5	
IL-1 β	(1475.1-3770)	(1554.1-4038.1)	(2320.3-4038.1)	(1466.8-4080.9)	-0.024
	280.3	291	287	315	
Pam3Cys IL-1 β	(112.6-630.6)	(113.9-597.3)	(79-647)	(135.1-475.9)	0.023
LPS(10 ng/ml)	5367.8	5441.3	5342.8	6014.2	
IL-6	(2940-8598.88)	(4307.7-7309.4)	(4307.65-6801.7)	(4204.9-7363)	-0.18
LPS(100 ng/ml)	8103.6	8383.8	7827.2	8455.7	
IL-6	(4800.8-12236.7)	(5730.1-12896.95)	(5580.3-13232.5)	(6762-12011.8)	-0.14
	3750.2	3654.1	3381.5	3744.9	
Pam3Cys IL-6	(1590.5-6675.8)	(1602.85-5778.6)	(1100.6-6721.7)	(1998.4-5465.7)	-0.13

LPS: Lipopolysaccharide, IL: interleukin, IL-1 β and IL-6 concentration units are given in pg/ml

All data are given as median (interquartile ranges 1-3). *indicates $p < 0.05$ compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient.

Table S12. *Ex vivo* cytokine production capacity of PBMCs separated according to CHDM status of women.

	No CHDM (n=88)	All CHDM (n=46)	High VAF (n=18)	Low VAF (n=28)	Cor. VAF
LPS(10 ng/ml)	1194.1	832.2	957.3	790.1	
IL-1 β	(677.5-2056.9)	(515.1-1682.4)	(450.4-2448.2)	(533.9-1306.8)	0.12
LPS(100 ng/ml)	2548.5	1823.3	2054.4	1724.3	
IL-1 β	(1575.3-3638.6)	(1103.3-2950.5) *	(992.7-3010.1)	(1231.2-2833.3)	0.11
	291.4	127.04	135.4	104.3	
Pam3Cys IL-1 β	(110.6-671.6)	(64.9-309.92) *	(55.9-397.1)	(67.9-277.2)*	0.093
LPS(10 ng/ml)	6107.8	4407.8	4407.8	4627	
IL-6	(3837.8-9388.1)	(2468-5910.9)*	(2616.3-6051.7)*	(2444.8-5766.8)*	0.098
LPS(100 ng/ml)	8344.9	6349.7	5121.7	6921.65	
IL-6	(5445.7-13132.3)	(3609.9-8306.8)	(3502-7412)*	(4114.38-10786.5)	0.041
	4185.7	1569.8	1670.3	1569.7	
Pam3Cys IL-6	(2125.9-6202.9)	(811.1-2579.2)*	(684.9-3184.6)*	(828-2256.4)*	0.25

LPS: Lipopolysaccharide, IL: interleukin, IL-1 β and IL-6 concentration units are given in pg/ml

All data are given as median (interquartile ranges 1-3). *indicates p<0.05 compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient

Table S13. Circulating cytokines and adipokines in plasma separated according to CHDM status of men.

	No CHDM (n=124)	All CHDM (n=39)	High VAF (n=24)	Low VAF (n=15)	Cor. VAF
IL-6 (pg/ml)	2.3 (1.6-3.3)	2.8 (1.8-4.6)	2.9 (2.1-4.6)	2.7 (1.7-4)	0.052
IL-1 β (pg/ml)	0.06 (0.06-0.1)	0.06 (0.06-0.11)	0.06 (0.06-0.01)	0.08 (0.06-0.11)	-0.1
IL-18 (pg/ml)	313 (222.7-515)	300.9 (224.5-510.2)	277.7 (224.5-349.2)	341 (232.5-628.4)	-0.17
IL-18bpa (ng/ml)	17.1 (14.4-20)	16.4 (13.6-20.2)	16.5 (13-17.7)	16.2 (14.1-21.2)	-0.2
hsCRP (μ g/ml)	1.4 (0.9-3)	1.9 (1.1-3.1)	1.9 (1-3.7)	1.9 (1.3-2.8)	0.033
AAT (mg/ml)	1 (0.6-1.7)	0.9 (0.6-1.4)	0.9 (0.7-1.1)	0.87 (0.61-1.44)	0.12
Resistin (ng/ml)	10.3 (8-12.8)	11.5 (9.3-15.2)	11.8 (10-14.9)	11.3 (9.2-15.9)	-0.0066
Leptin (ng/ml)	10.2 (7-15)	12.3 (7.5-17)	8.5 (6.9-16.1)	13.3 (8.4-21.3)	-0.22
Adiponectin (μ g/ml)	3.1 (2.2-4.5)	3.3 (2.7-4.3)	3.7 (3-4.2)	3.1 (2.3-4.4)	0.092

IL: interleukin, IL-18bp: IL-18 binding protein, CRP: C-reactive protein, AAT: Alpha-1 antitrypsin

All data are given as median (interquartile ranges 1-3). *indicates $p < 0.05$ compared to No CHDM group.

Correlation is indicated with Spearman correlation coefficient.

Table S14. Circulating cytokines and adipokines in plasma separated according to CHDM status of women.

	No CHDM (n=88)	All CHDM (n=46)	High VAF (n=18)	Low VAF (n=28)	Cor. VAF
IL-6 (pg/ml)	2.7 (1.9-3.4)	2.6 (1.7-4.1)	3.3 (2-4.4)	2.2 (1.5-3)	0.36
IL-1 β (pg/ml)	0.06 (0.06-0.11)	0.06 (0.06-0.13)	0.06 (0.06-0.14)	0.07 (0.06-0.11)	0.013
IL-18 (pg/ml)	300.1 (234.1-478.8)	283.7 (204.2-469.9)	411.3 (222.3-489.9)	252.5 (200-379)	0.27
IL-18bpa (ng/ml)	17.5 (14-21.4)	15.8 (13.5-19)	14.9 (12.8-18.7)	16.2 (14.2-19.2)	-0.098
hsCRP (μ g/ml)	2.7 (1.1-4.6)	2.1 (1.3-3.7)	2 (0.9-3.7)	2.2 (1.5-3.8)	0.13
AAT (mg/ml)	0.9 (0.6-1.9)	0.9 (0.6-1.3)	0.8 (0.6-1.6)	0.9 (0.6-1.1)	-0.037
Resistin (ng/ml)	10.8 (8.6-15.3)	11.5 (9-14.4)	11.4 (8.3-13)	12.8 (10-16.2)	-0.18
Leptin (ng/ml)	31.5 (21.7-48.1)	27.5 (17.8-51)	25.4 (18.8-47.1)	28.8 (17.5-52.7)	-0.056
Adiponectin (μ g/ml)	6 (4.6-7.3)	5.1 (4.2-8)	4.9 (4.2-6.8)	6 (4.2-8)	-0.046

IL: interleukin, IL-18bp: IL-18 binding protein, CRP: C-reactive protein, AAT: Alpha-1 antitrypsin

All data are given as median (interquartile ranges 1-3). *indicates $p < 0.05$ compared to No CHDM group. Correlation is indicated with Spearman correlation coefficient.

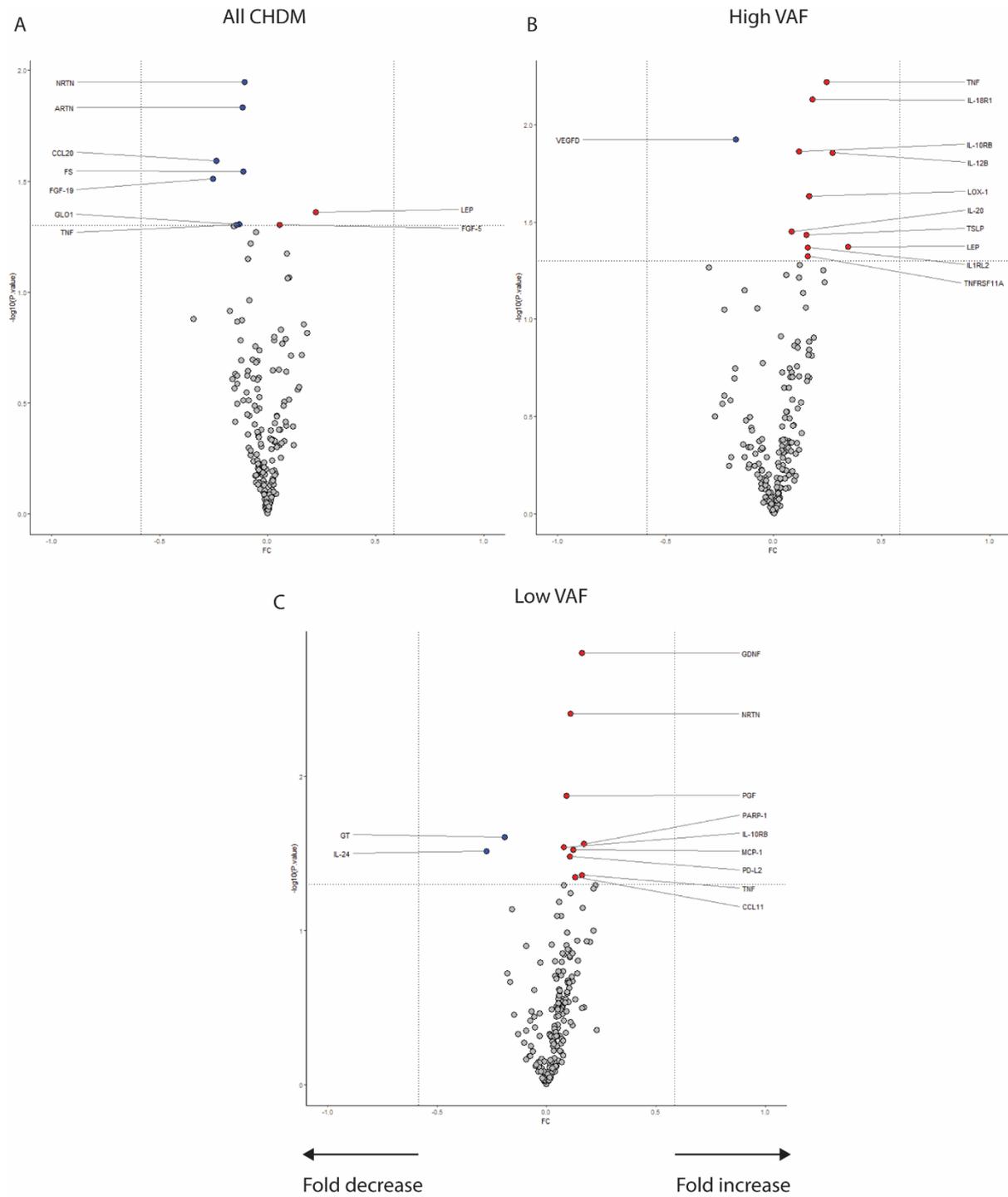
Table S15. The association between targeted proteomic biomarkers and CHDM status of the entire study cohort.

	No CHDM (n=212)	All CHDM (n=85)	High VAF (n=33)	Low VAF (n=52)	Cor. VAF
SLAMF7	3.6 (3.3-4.1)	3.5 (3.2-3.9)	3.6 (3.3-4)	3.4 (3-3.7)*	0.22
IL1RL2	4.5 (4.3-4.8)	4.6 (4.4-4.9)*	4.6 (4.3-4.8)	4.6 (4.4-4.9)	0.15
IL-27	6.5 (6.3-6.7)	6.4 (6.1-6.7)*	6.3 (6.1-6.7)	6.4 (6.1-6.6)	0.021
GH	8 (6.5-9.4)	7.3 (6.3-9.3)	7.9 (6.3-9.9)	7.2 (6.2-8.7)*	0.23
GLO1	5.6 (5.4-5.9)	5.5 (5.1-5.8)	5.4 (5.1-5.8)*	5.6 (5.2-5.9)	-0.21
AMBP	7.9 (7.9-8)	8 (7.8-8.1)	7.9 (7.8-8)	8 (7.9-8.1)*	-0.073
CCL3	6.7 (6.3-7)	6.7 (6.1-7)	6.4 (6.1-6.7)*	6.7 (6.4-7.1)	-0.26
TNFRSF13B	10 (9.8-10.3)	9.9 (9.7-10.1)*	10 (9.8-10.2)	9.9 (9.7-10.1)*	0.042
LEP	6.8 (6.2-7.4)	7.1 (6.5-7.5)*	7.1 (6.4-7.4)	7.2 (6.5-7.6)*	0.012
NEMO	5.8 (5.2-6.4)	5.7 (5-6.2)	5.5 (5-5.8)*	5.9 (5-6.4)	-0.21
VEGFD	8.1 (7.9-8.3)	8 (7.8-8.2)	8.1 (7.9-8.4)	8 (7.8-8.1)*	0.33
AXIN1	2.7 (2.3-3.2)	2.6 (2-3.2)	2.3 (2-3)*	2.7 (2.1-3.5)	-0.16
TSLP	0.6 (0.4-0.8)	0.6 (0.4-0.8)	0.5 (0.3-0.7)*	0.6 (0.4-0.8)	-0.14
MMP-1	9.7 (9-10.4)	9.6 (9-10.2)	9.4 (8.9-9.7)*	9.8 (9.2-10.5)	-0.23
CCL3.1	5.1 (4.9-5.5)	5.1 (4.8-5.4)	4.9 (4.8-5.2)*	5.2 (4.8-5.7)	-0.22
FGF-19	8.3 (7.7-8.9)	8 (7.4-8.5)*	8.1 (7.5-8.6)	7.9 (7.3-8.5)*	0.081
ST1A1	2.9 (2.3-3.5)	2.8 (2.1-3.4)	2.4 (2-3.1)*	2.9 (2.1-3.5)	-0.17

All data are given as median (interquartile ranges 1-3). *indicates $p < 0.05$ compared to No CHDM group.

Correlation is indicated with Spearman correlation coefficient.

Figure S1. Volcano plots depicting increase and decrease in NPX (normalized protein expression) values of OLINK biomarkers measured in plasma with targeted proteomics.



Differential expression of A) All CHDM, B) High VAF (VAF \geq 2%) C) Low VAF (VAF<2%) groups compared to No CHDM group.