

Supplementary Table. Circulating factors measured in this study

Measured circulating factors (N = 1,482)									
Clinical markers (n = 7)	Cytokines/Hormones (n = 275)								Metabolites (n > 1,200)
	ELISA	Multiplex 1 ^a			Multiplex 2 ^b	Multiplex 3 ^c			CE-TOFMS/LC-TOFMS
Total protein	25(OH) Vitamin D	β-NGF	Gro-β/CXCL2	TSLP	Apelin	ANGPTL6	CTRP9/C1qTNF9	TGF-α	https://en.humanmetabolome.com/
Triglyceride	Cathepsin B	CTACK	I-309/CCL1	TWEAK/TNFSF12	BDNF	Insulin	MMP-12	TNF R2/TNFRSF1B	
Total cholesterol	Myonectin	Eotaxin	I-TAC/CXCL11	IL-17F	Erythropoietin	α1-Microglobulin	Cathepsin S	MMP-10	
HDL cholesterol		FGF basic	MCP-2/CCL8	IL-21	Myostatin/GDF8	Galectin-9	Park7/DJ-1	Periostin/OSF-2	
LDL cholesterol		G-CSF	MCP-4/CCL13	IL-23	FABP3	C-Peptide	D-Dimer+FDPs	TNF R1/TNFRSF1A	
Albumin		GM-CSF	MDC/CCL22	IL-25	Irisin	S100A8	Growth hormone	MMP-9	
Insulin		GRO-α	MIP-18/CCL15	IL-31	FGF21	IL-4Rα	SOST/Sclerostin	BDNF	
		HGF	MIP-3α/CCL20	IL-33	Osteocrin/Musclin	EGF	Resistin	Ferritin	
		IL-1α	MIP-3β/CCL19	sCD40L	Ghrelin	Angiopoietin-2	Reg3A	IGFBP-2	
		IL-1β	MPIF-1/CCL23		GIP	FLRG	NRG1-β1	CCL14/HCC-1/HCC-3	
		IL-1Ra	SCYB16/CXCL16		GLP-1	BMP-7	FGF-23	CCL18/PARC	
		IL-2Ra	TARC/CCL17		Glucagon	Calbindin D	Progranulin/PGRN	SPARC	
		IL-3	TECK/CCL25		PP	NT-Pro-ANP	Renin	Lactoferrin	
		IL-4	APRIL/TNFSF13		PYY	Prolactin	IL-1 R2	N-Cadherin	
		IL-5	BAFF/TNFSF13B		Amylin	IGFBP-1	IFN-α	Myoglobin	
		IL-6	CD163		ACTH	Procalcitonin	IL-36β/IL-1F8	HMW Adiponectin	
		IL-7	CD30/TNFRSF8		CNTF	AgRP/ART	CXCL14/BRAK	SHBG	
		IL-9	Chitinase 3-like 1		FSH	CCL28	FGF acidic	EN-RAGE/S100A12	
		IL-13	gp130		LH	PCSK9	CD44	Lipocalin-2/NGAL	
		IL-15	IFN-α2		TSH	S100A9	Stanniocalcin 1/STC-1	PDGF-AA	
		IL-16	IFN-β		Cortisol	TRANCE/TNFSF11/RANKL	Endostatin	Angiopoietin-1	
		IL-17A	IFN-γ		Estradiol	PDGF-CC	IGFBP-rp1/IGFBP-7	Cystatin C	
		IL-18	IL-2		Progesterone	IGFBP-4	FGF-13	DPP4	
		IP-10	IL-6Ra		Testosterone	PDGF-DD	Osteoprotegerin	Complement factor D/Adipsin	
		LIF	IL-8/CXCL8		T3	B7-H3	MMP-13	TIMP-1	
		M-CSF	IL-10		T4	Relaxin-2	VEGFR1/Flt-1	MSP/MST1	
		MCP-1(MCAF)	IL-11		IGF-I	TIM-1\KIM-1\HAVCR	XCL1/Lymphotactin	IGFBP-6	
		MCP-3	IL-12(p40)		IGF-II	Synuclein-α	Osteoactivin/GPNMB	CD14	
		MIF	IL-12(p70)			MIA	Total Inhibin	Component C2	
		MIG	IL-19			Midkine	IGFBP-3	Serpin E1/PAI-1	
		MIP-1α	IL-20			GDF-15	Follistatin-like 1/FSTL1	Adiponectin/Acrp30	
		MIP-1β	IL-22			α-Fetoprotein	VEGFR3/Flt-4	CXCL7/NAP-2	
		PDGF-BB	IL-26			Chemerin	SP-D	LBP	
		RANTES	IL-27(p28)			ANGPTL3	IL-1 R1	Serpin A7/TBG	
		SCF	IL-28A/IFN-λ2			ANGPTL4	NT-3	C-Reactive protein	
		SCGF-β	IL-29/IFN-λ1			CD40 Ligand\TNFSF5	IL-28B/IFN-λ3	Angiogenin	
		SDF-1α	IL-32			TRACP/PAP/ACP5	PIGF	Properdin	
		TNF-α	IL-34			Flt-3 Ligand	VEGF-D	Serpin A10/ZPI	
		TNF-β	IL-35			GDNF	Serpin A12	ITIH4	
		TRAIL	LIGHT/TNFSF14			VEGFR2/KDR/Flk-1	UCH-L1/PGP95	β2-Microglobulin	
		VEGF	MMP-1			NT-4	Chitinase 3-like 1	Serpin C1	
		6Ckine/CCL21	MMP-2			PBEF/Visfatin	HB-EGF	Protein S/PROS1	
		BCA-1/CXCL13	MMP-3			MMP-7	IL-27	Serpin F1/PEDF	
		ENA-78/CXCL5	Osteocalcin			S100B	Oncostatin M	CXCL4/PF4	
		Eotaxin-2/CCL24	Osteopontin			FABP4/A-FABP	PDGF-AB	Fetuin A/AHSG	
		Eotaxin-3/CCL26	Pentraxin-3			MMP-8	VEGF-C	Retinol-binding protein 4	
		Fractalkine/CX3CL1	TNF-R1			Syndecan-1/CD138	Leptin/OB	Serpin A4/Kallistatin	
		GCP-2/CXCL6	TNF-R2			Dkk-1	IL-17C		

The numbers in parentheses indicate the sum of factors in the category. The circulating levels of cytokines and hormones in serum were measured by enzyme-linked immunosorbent assay (ELISA) with the following multiplex ELISA kits: ^aBio-Plex (Bio-Rad Laboratories, Hercules, CA, USA), ^bMultiplex (Merck Millipore, Burlington, MA, USA), and ^cLuminex (R&D Systems, Minneapolis, MN, USA). Over 1,200 metabolites in plasma were measured with a capillary electrophoresis and liquid chromatography-mass spectrometry-based system (Dual Scan, Human Metabolome Technologies, Boston, MA, USA); the details of the instruments and measured metabolites are shown on the manufacturer website (<https://en.humanmetabolome.com/>). ELISA, enzyme-linked immunosorbent assay; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TOFMS, time of flight mass spectrometry