

Supplementary Table SI. Characteristics of GWAS enrolled in the MR study

Items	Dataset	Sample size	p-value for screening	No. of enrolled SNPs
Type 2 diabetes	GCST90018926	667504	—	24024799
Alzheimer's disease	GCST005922	388324	—	7561814
Red cell distribution width	GCST90078986	534313	<5.00E-2	33
Folate	GCST90013344	5944	<5.00E-6	14
Gamma-tocopherol	GCST90243688	6226	<5.00E-5	69
Alkaline Phosphatase	GCST90018942	463178	<5.00E-15	150
Blood urea nitrogen	GCST008062	416178	<5.00E-8	146
Gamma Glutamyl Transferase	GCST90019507	355690	<5.00E-23	142
Uric acid	GCST90018977	473241	<5.00E-23	147
Creatinine	GCST90278624	92615	<5.00E-8	92
Globulin	GCST90101080	1335	<5.00E-7	10
Vitamin D	GCST90019526	339705	<5.00E-8	119
HDL-Cholesterol	GCST007140	94675	<5.00E-8	176

Supplementary Table SII. Primer sequences used in this study.

Primer name	Primer Sequence (5' to 3')
GAPDH-Forward	ACAAC TTTGGTATCGTGGAAGG
GAPDH-Reverse	GCCATCACGCCACAGTTTC
NFIA-Forward	GCAGGCCCGAAAACGAAAATA
NFIA-Reverse	TTTGCCAGAAGTCGAGATGCC
APOA1-Forward	CCCTGGGATCGAGTGAAGGA
APOA1-Reverse	CTGGGACACATAGTCTCTGCC
APOE-Forward	GTTGCTGGTCACATTCCTGG
APOE-F-Reverse	GCAGGTAATCCCAAAGCGAC

Supplementary Table SIII. Quartile and comparison of laboratory characteristics between different groups

Terms	Normal	Prediabetes	T2D	p	Normal	MCI	p
White blood cell count (1000 cells/uL)	6.90[5.60,8.20]	7.20[6.00,8.60]	7.60[6.30,9.10]	<0.001	6.70[5.60,8.00]	6.90[5.80,8.18]	0.015
Lymphocyte percent (%)	29.80[24.80,35.10]	30.10[24.90,35.50]	28.30[22.90,34.00]	<0.001	27.80[22.80,33.40]	27.00[21.40,33.70]	0.15
Segmented neutrophils percent (%)	58.70[52.70,64.40]	58.20[52.00,64.00]	60.20[53.90,65.90]	<0.001	60.10[53.80,65.60]	60.90[53.80,66.69]	0.153
Eosinophils percent (%)	2.30[1.50,3.40]	2.50[1.60,3.70]	2.50[1.70,3.60]	<0.001	2.50[1.70,3.70]	2.50[1.60,3.70]	0.555
Basophils percent (%)	0.60[0.40,0.90]	0.70[0.40,0.90]	0.70[0.50,0.90]	<0.001	0.60[0.40,0.90]	0.60[0.40,0.80]	<0.001
Lymphocyte number (1000 cells/uL)	2.00[1.60,2.50]	2.10[1.70,2.60]	2.10[1.70,2.60]	<0.001	1.80[1.50,2.30]	1.80[1.40,2.30]	0.673
Monocyte number (1000 cells/uL)	0.50[0.40,0.60]	0.60[0.50,0.70]	0.60[0.50,0.70]	<0.001	0.50[0.40,0.70]	0.60[0.50,0.70]	0.036
Segmented neutrophils num (1000 cells/uL)	4.00[3.10,5.10]	4.10[3.20,5.30]	4.50[3.60,5.60]	<0.001	4.00[3.20,4.90]	4.18[3.20,5.20]	0.009
Eosinophils number (1000 cells/uL)	0.20[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]	<0.001	0.20[0.10,0.30]	0.20[0.10,0.30]	0.444
Basophils number (1000 cells/uL)	0.00[0.00,0.10]	0.00[0.00,0.10]	0.10[0.00,0.10]	<0.001	0.00[0.00,0.10]	0.00[0.00,0.10]	0.002
Red blood cell count (million cells/uL)	4.70[4.37,5.05]	4.71[4.40,5.04]	4.70[4.35,5.04]	0.114	4.55[4.27,4.84]	4.51[4.14,4.86]	0.055
Hemoglobin (g/dL)	14.40[13.50,15.40]	14.20[13.30,15.10]	14.10[13.10,15.10]	<0.001	14.10[13.30,15.00]	13.80[12.60,14.90]	<0.001
Hematocrit (%)	42.40[39.30,45.30]	42.00[39.10,44.90]	41.60[38.30,44.40]	<0.001	41.60[39.10,44.30]	41.10[37.80,44.20]	0.037
Mean cell volume (fL)	90.20[87.30,93.10]	89.60[86.10,92.60]	89.10[85.80,92.20]	<0.001	91.70[88.90,94.40]	91.30[87.70,94.70]	0.096
Mean cell hemoglobin (pg)	30.80[29.60,31.80]	30.30[29.00,31.50]	30.20[28.90,31.40]	<0.001	31.30[30.10,32.30]	30.80[29.40,32.30]	<0.001
Mean Cell Hgb Conc. (g/dL)	34.00[33.50,34.60]	33.80[33.20,34.30]	33.80[33.20,34.40]	<0.001	34.00[33.40,34.60]	33.70[33.10,34.30]	<0.001
Red cell distribution width (%)	12.60[12.20,13.30]	13.10[12.60,13.90]	13.20[12.50,14.00]	<0.001	13.00[12.50,13.60]	13.20[12.60,14.00]	<0.001
Platelet count (1000 cells/uL)	247.00[211.00,289.00]	250.00[210.00,296.00]	238.00[200.00,290.00]	<0.001	231.00[195.00,273.00]	230.00[190.00,278.00]	0.57
Mean platelet volume (fL)	8.10[7.60,8.70]	8.10[7.60,8.70]	8.20[7.60,8.90]	<0.001	8.20[7.60,8.90]	8.40[7.70,9.00]	0.101
Blood lead (umol/L)	0.06[0.04,0.10]	0.07[0.05,0.11]	0.06[0.04,0.09]	<0.001	0.09[0.06,0.13]	0.10[0.07,0.16]	0.17
Folate, RBC (nmol/L RBC)	829.00[591.20,1160.00]	955.00[668.00,1340.82]	1037.13[727.10,1467.53]	<0.001	1060.00[762.00,1520.00]	865.33[600.73,1250.81]	<0.001
Folate, serum (nmol/L)	29.70[20.70,42.40]	32.60[21.90,49.50]	33.80[23.60,51.50]	<0.001	40.30[27.40,57.10]	33.50[22.70,49.04]	0.014
Vitamin B12 (pmol/L)	346.90[264.20,461.08]	363.13[267.89,486.30]	362.40[268.28,512.91]	<0.001	378.25[275.91,528.40]	363.71[257.57,526.20]	0.229
Homocysteine(umol/L)	7.70[6.36,9.33]	8.52[7.01,10.47]	8.75[7.04,10.95]	<0.001	9.07[7.51,11.09]	10.53[8.00,13.39]	<0.001

Blood mercury, total (nmol/L)	4.49[2.30,8.98]	4.60[2.40,9.08]	3.99[2.15,8.08]	0.001	5.00[2.70,10.80]	3.60[1.70,7.50]	0.012
Mercury, inorganic (nmol/L)	1.25[1.25,1.50]	1.25[0.95,1.50]	1.25[0.95,1.50]	<0.001	0.95[0.95,1.70]	0.95[0.95,0.95]	0.014
Tot Iron Binding Capacity TIBC (umol/L)	62.65[56.21,70.17]	61.07[55.31,67.66]	61.58[54.98,68.60]	<0.001	63.90[57.28,70.47]	62.65[55.85,69.81]	0.245
Ferritin(ug/L)	65.00[30.09,129.00]	91.64[43.00,169.00]	107.00[50.00,210.00]	<0.001	104.00[55.00,186.00]	110.00[57.00,195.91]	0.439
Cotinine, Serum (ng/mL)	0.06[0.02,23.20]	0.04[0.01,24.53]	0.04[0.01,0.76]	<0.001	0.03[0.01,0.11]	0.04[0.02,0.54]	<0.001
gamma-tocopherol (umol/L)	4.64[3.05,6.46]	5.07[3.29,7.37]	5.38[3.44,7.90]	<0.001	4.35[2.33,7.06]	4.71[2.89,7.73]	0.032
Retinyl palmitate (umol/L)	0.05[0.03,0.09]	0.05[0.03,0.08]	0.05[0.03,0.09]	0.002	0.07[0.04,0.11]	0.05[0.03,0.08]	<0.001
Retinyl stearate (umol/L)	0.02[0.01,0.02]	0.02[0.01,0.02]	0.02[0.01,0.02]	<0.001	0.01[0.01,0.02]	0.01[0.01,0.02]	0.966
Retinol (umol/L)	1.98[1.63,2.38]	1.98[1.64,2.39]	2.07[1.69,2.52]	<0.001	2.28[1.95,2.68]	2.14[1.76,2.58]	<0.001
Albumin, urine (ug/mL)	6.70[3.50,12.60]	7.80[4.10,15.90]	12.40[5.50,35.56]	<0.001	7.80[3.83,17.00]	15.40[6.40,38.58]	<0.001
Albumin (g/L)	43.00[41.00,46.00]	42.00[40.00,44.00]	42.00[39.00,44.00]	<0.001	43.00[41.00,44.00]	42.00[40.00,44.00]	<0.001
Creatinine, urine (mg/dL)	113.00[61.00,174.00]	109.00[61.00,164.00]	104.00[64.00,154.00]	<0.001	92.00[50.00,140.00]	100.00[58.00,152.00]	0.006
Creatinine (umol/L)	72.49[61.88,87.52]	76.91[64.53,88.40]	76.91[61.90,92.82]	<0.001	79.56[64.53,92.82]	79.60[67.18,102.54]	0.004
Alanine Aminotransferase (ALT) (U/L)	20.00[16.00,28.00]	22.00[17.00,30.00]	23.00[17.00,31.00]	<0.001	20.00[17.00,25.00]	19.00[15.00,24.00]	<0.001
Aspartate Aminotransferase (AST) (U/L)	22.00[19.00,27.00]	23.00[20.00,28.00]	22.00[19.00,28.00]	<0.001	23.00[20.00,27.00]	23.00[20.00,27.00]	0.811
Alkaline Phosphatase (ALP) (U/L)	65.00[53.00,79.00]	70.00[57.00,84.00]	71.00[57.00,88.00]	<0.001	67.00[55.00,81.00]	76.00[61.00,94.39]	<0.001
Blood urea nitrogen (mmol/L)	4.28[3.57,5.36]	5.00[3.93,6.07]	5.36[3.93,6.78]	<0.001	5.36[4.30,6.78]	5.71[4.60,7.29]	0.001
Total Calcium (mmol/L)	2.35[2.30,2.42]	2.35[2.30,2.40]	2.35[2.30,2.42]	0.001	2.35[2.30,2.42]	2.38[2.30,2.42]	0.442
Bicarbonate (mmol/L)	25.00[23.00,26.00]	25.00[24.00,27.00]	25.00[23.00,26.00]	<0.001	25.00[24.00,27.00]	25.00[23.00,26.00]	0.011
Gamma Glutamyl Transferase (GGT) (U/L)	18.00[13.00,28.00]	22.00[16.00,33.00]	24.00[17.00,39.00]	<0.001	19.00[15.00,27.22]	21.00[15.00,33.00]	<0.001
Iron (umol/L)	15.40[11.60,20.06]	14.10[10.70,18.10]	13.40[10.40,17.20]	<0.001	15.00[11.64,18.81]	13.61[10.57,17.73]	<0.001
Lactate Dehydrogenase (LDH) (U/L)	127.00[112.00,144.00]	136.00[120.00,156.00]	133.36[117.00,155.00]	<0.001	134.00[119.00,152.00]	143.00[125.00,166.00]	<0.001
Phosphorus (mmol/L)	1.20[1.10,1.32]	1.20[1.07,1.32]	1.20[1.07,1.32]	0.328	1.16[1.07,1.29]	1.16[1.03,1.29]	0.063
Bilirubin, total (umol/L)	10.30[8.55,13.68]	10.26[6.84,13.68]	10.26[6.84,13.68]	<0.001	10.30[8.55,13.68]	10.26[8.55,13.68]	0.222
Protein, total (g/L)	72.00[69.00,75.00]	71.00[68.00,74.00]	71.00[68.00,74.00]	<0.001	71.00[68.00,74.00]	73.00[69.00,77.00]	<0.001
Uric acid (umol/L)	309.30[255.80,368.80]	333.10[279.60,386.60]	327.10[273.60,398.50]	<0.001	327.10[273.60,386.60]	333.10[273.60,400.86]	0.037

Sodium (mmol/L)	139.00[138.00,141.00]	139.00[138.00,141.00]	139.00[137.00,141.00]	<0.001	140.00[138.00,141.00]	140.00[138.00,141.00]	0.972
Potassium (mmol/L)	4.00[3.80,4.20]	4.00[3.80,4.27]	4.10[3.83,4.30]	<0.001	4.10[3.90,4.30]	4.10[3.90,4.40]	0.03
Chloride (mmol/L)	104.00[102.00,105.00]	103.00[101.00,105.00]	102.00[100.00,104.00]	<0.001	103.00[101.00,105.00]	103.00[100.30,105.00]	0.008
Transferrin Saturation (%)	24.70[18.00,32.80]	23.24[17.60,30.00]	23.00[17.00,29.00]	<0.001	24.00[18.30,30.60]	22.50[16.44,29.15]	0.118
Globulin (g/L)	28.00[26.00,31.00]	29.00[26.00,32.00]	30.00[27.00,33.00]	<0.001	28.00[25.00,31.00]	31.00[28.00,34.00]	<0.001
alpha-carotene (umol/L)	0.05[0.03,0.10]	0.05[0.03,0.09]	0.04[0.02,0.08]	<0.001	0.06[0.04,0.11]	0.05[0.02,0.09]	0.004
trans-beta-carotene (umol/L)	0.23[0.13,0.42]	0.23[0.13,0.41]	0.18[0.10,0.34]	<0.001	0.34[0.20,0.56]	0.31[0.17,0.54]	0.163
cis-beta-carotene (umol/L)	0.01[0.01,0.02]	0.01[0.01,0.02]	0.01[0.01,0.02]	<0.001	0.02[0.01,0.03]	0.02[0.01,0.03]	0.711
beta-cryptoxanthin (umol/L)	0.13[0.08,0.20]	0.12[0.07,0.20]	0.10[0.06,0.17]	<0.001	0.15[0.09,0.24]	0.14[0.08,0.24]	0.211
Lutein and zeaxanthin (umol/L)	0.25[0.18,0.36]	0.27[0.19,0.38]	0.26[0.18,0.36]	0.004	0.28[0.20,0.39]	0.26[0.19,0.38]	0.317
trans-lycopene (umol/L)	0.42[0.30,0.56]	0.37[0.25,0.54]	0.34[0.22,0.49]	<0.001	0.34[0.22,0.49]	0.30[0.20,0.41]	0.035
Vitamin D (nmol/L)	63.10[49.20,77.70]	55.70[42.00,68.20]	53.20[39.80,68.24]	<0.001	61.10[49.20,73.00]	56.30[42.00,70.60]	0.02
Creatine Phosphokinase (CPK) (IU/L)	104.00[73.00,162.00]	114.00[78.00,178.00]	100.00[66.00,154.00]	<0.001	96.00[67.00,138.00]	95.00[66.00,158.00]	0.694
Direct HDL-Cholesterol (mmol/L)	1.60[1.29,2.01]	1.42[1.27,1.71]	1.19[1.06,1.34]	<0.001	1.29[1.08,1.58]	1.37[1.14,1.71]	0.014
Direct HDL-Cholesterol (mg/dL)	52.00[43.00,63.00]	49.00[41.00,59.00]	45.00[38.00,54.00]	<0.001	52.00[43.00,65.00]	49.00[41.00,61.00]	0.001
Total Cholesterol(mmol/L)	4.94[4.29,5.66]	5.20[4.53,5.92]	4.73[4.01,5.56]	<0.001	5.20[4.50,5.90]	5.12[4.32,5.97]	0.486
Cholesterol, total (mmol/L)	4.96[4.32,5.66]	5.20[4.50,5.90]	4.73[4.01,5.56]	<0.001	5.15[4.42,5.82]	5.07[4.29,5.90]	0.277
Triglyceride (mg/dL)	97.00[67.00,143.00]	116.00[83.00,169.00]	141.68[96.00,204.00]	<0.001	117.00[81.00,165.00]	120.00[83.00,170.00]	0.708
Triglyceride (mmol/L)	1.09[0.76,1.61]	1.31[0.94,1.91]	1.60[1.08,2.30]	<0.001	1.32[0.91,1.86]	1.35[0.94,1.92]	0.707
LDL-cholesterol(mmol/L)	2.90[2.35,3.52]	3.08[2.48,3.70]	2.59[2.02,3.28]	<0.001	2.87[2.28,3.60]	3.00[2.40,3.59]	0.197
Glycohemoglobin(%)	5.20[5.00,5.40]	5.80[5.70,6.00]	6.90[6.30,7.90]	<0.001	5.60[5.40,6.00]	5.80[5.40,6.40]	<0.001
Glucose, serum (mmol/L)	4.94[4.61,5.27]	5.38[4.94,5.88]	7.16[5.77,9.71]	<0.001	5.33[4.94,6.00]	5.55[5.05,6.49]	<0.001
Glucose, plasma (mg/dL)	95.76[89.90,102.00]	105.00[98.00,113.00]	142.19[119.00,181.00]	<0.001	106.55[96.00,124.73]	103.20[95.70,114.00]	0.011
Plasma glucose: SI(mmol/L)	5.32[4.99,5.66]	5.83[5.44,6.27]	7.89[6.61,10.05]	<0.001	5.92[5.33,6.93]	5.73[5.32,6.33]	0.011
C-peptide:SI(nmol/L)	0.66[0.50,0.90]	0.98[0.75,1.30]	1.06[0.78,1.42]	<0.001	0.94[0.63,1.25]	0.82[0.61,1.10]	0.048
Insulin(uU/mL)	8.24[5.47,12.75]	11.78[7.29,18.58]	14.07[8.59,23.56]	<0.001	11.26[6.92,16.45]	10.01[6.47,15.40]	0.04

Insulin:SI(pmol/L)	53.28[38.58,74.81]	83.25[54.51,119.58]	109.51[64.65,159.47]	<0.001	71.64[45.19,108.95]	60.06[42.65,89.72]	0.046
Two Hour Glucose(OGTT)(mg/dL)	99.00[82.00,121.00]	125.00[100.00,160.00]	272.00[200.00,322.37]	<0.001	141.05[112.70,192.22]	119.00[96.00,156.00]	<0.001

Supplementary Table SIV. Comparison of the upper quartile of laboratory characteristics

Terms	Normal	Prediabetes	T2D	p	Normal	MCI	p
Segmented neutrophils percent(%)	68.80[66.60,72.10]	67.80[65.60,71.10]	69.30[67.10,72.60]	<0.001	69.20[67.10,73.10]	69.30[67.20,72.70]	0.78
Eosinophils percent(%)	4.90[4.20,6.00]	4.80[4.20,6.10]	4.90[4.20,6.00]	0.863	4.80[4.20,5.90]	4.90[4.37,6.30]	0.123
Basophils percent(%)	1.20[1.00,1.40]	1.20[1.00,1.40]	1.20[1.00,1.39]	0.381	1.20[1.00,1.40]	1.20[1.00,1.40]	0.732
Monocyte number(1000cells/uL)	0.80[0.70,0.80]	0.90[0.80,1.00]	0.90[0.80,1.00]	<0.001	0.88[0.80,0.90]	0.90[0.80,1.00]	0.191
Eosinophils number(1000 cells/uL)	0.30[0.30,0.40]	0.50[0.40,0.60]	0.50[0.40,0.60]	<0.001	—	—	—
Basophils number(1000 cells/uL)	0.20[0.20,0.20]	0.20[0.20,0.20]	0.20[0.20,0.30]	0.209	—	—	—
Hemoglobin (g/dL)	16.00[15.80,16.50]	15.80[15.40,16.30]	15.60[15.20,16.20]	<0.001	15.60[15.20,16.10]	15.60[15.10,16.00]	0.228
Hematocrit (%)	47.10[46.10,48.50]	46.50[45.60,47.90]	46.30[45.30,47.90]	<0.001	46.20[45.30,47.70]	46.30[45.39,47.70]	0.299
Mean cell volume(fL)	95.20[94.00,96.90]	94.60[93.40,96.40]	94.60[93.40,96.50]	<0.001	96.30[95.40,97.60]	96.10[95.10,97.52]	0.093
Mean cell hemoglobin(pg)	32.70[32.20,33.30]	32.30[31.80,33.00]	32.30[31.80,33.10]	<0.001	33.10[32.70,33.70]	33.00[32.50,33.90]	0.301
Platelet count(1000cells/uL)	325.00[305.00,356.00]	331.00[309.00,365.00]	327.00[305.59,365.00]	<0.001	311.00[288.00,343.00]	312.43[293.00,351.00]	0.351
Vitamin B12(pmol/L)	560.88[507.01,656.10]	605.33[543.20,718.07]	637.63[574.90,738.00]	<0.001	660.05[584.89,752.00]	655.25[580.88,774.89]	0.878
Blood mercury, total(nmol/L)	9.20[8.70,9.60]	9.50[9.30,9.80]	8.98[8.50,9.53]	<0.001	5.70[3.40,13.08]	8.79[8.62,8.80]	0.002
Mercury, inorganic(nmol/L)	10.94(11.92)	14.23(18.53)	10.34(10.51)	0.077	2.54[2.05,3.29]	2.24[1.87,2.95]	0.085
Tot Iron Binding Capacity TIBC(umol/L)	77.69[74.29,82.70]	73.72[70.35,78.04]	73.42[70.71,79.00]	<0.001	75.36[72.14,80.73]	73.83[70.88,78.79]	0.158
Ferritin(ug/L)	62.00[31.00,140.00]	71.93[40.00,207.71]	77.00[44.71,283.50]	<0.001	77.00[47.00,236.00]	75.72[52.00,257.36]	0.703
Retinyl palmitate (umol/L)	0.13[0.10,0.16]	0.12[0.09,0.15]	0.13[0.11,0.19]	<0.001	0.15[0.13,0.20]	0.14[0.10,0.17]	0.006
Retinyl stearate (umol/L)	0.03[0.02,0.04]	0.03[0.03,0.05]	0.04[0.03,0.06]	<0.001	0.04[0.02,0.06]	0.04[0.03,0.05]	0.326
Albumin (g/L)	47.00[46.00,48.00]	46.00[45.00,47.00]	46.00[45.00,47.00]	<0.001	46.00[45.00,47.00]	46.00[45.00,46.00]	0.582
Alanine Aminotransferase (ALT) (U/L)	35.00[30.00,44.00]	37.00[32.00,45.00]	38.00[33.00,49.00]	<0.001	30.00[27.00,36.00]	31.00[27.00,39.00]	0.711
Aspartate Aminotransferase (AST) (U/L)	32.00[29.00,38.00]	33.00[30.00,40.00]	35.00[31.00,44.00]	<0.001	31.00[29.00,35.00]	32.00[29.00,38.03]	0.355
Total Calcium (mmol/L)	2.48[2.45,2.50]	2.45[2.42,2.50]	2.48[2.45,2.52]	<0.001	2.48[2.45,2.52]	2.48[2.45,2.52]	0.445
Bicarbonate (mmol/L)	27.00[27.00,28.00]	28.00[28.00,29.00]	28.00[28.00,29.00]	<0.001	28.00[28.00,29.00]	28.00[27.00,29.00]	<0.001
Phosphorus (mmol/L)	1.42[1.39,1.49]	1.42[1.39,1.49]	1.42[1.39,1.52]	0.031	1.42[1.36,1.45]	1.39[1.32,1.49]	0.002

Bilirubin,total(umol/L)	8.55[6.84,17.10]	8.55[6.80,15.39]	8.55[6.84,15.39]	<0.001	8.55[6.84,15.40]	8.55[6.84,15.39]	0.404
Protein,total(g/L)	78.00[76.00,79.00]	78.00[76.00,80.00]	78.00[77.00,80.00]	0.052	78.00[77.00,80.00]	80.00[79.00,82.00]	<0.001
Sodium(mmol/L)	142.00[142.00,143.00]	142.00[142.00,143.00]	143.00[142.00,143.30]	0.003	142.00[142.00,143.00]	143.00[142.00,143.80]	0.002
Chloride(mmol/L)	106.00[99.50,107.00]	106.00[99.00,107.00]	105.00[98.00,106.00]	<0.001	106.00[99.00,107.00]	105.88[98.00,107.00]	0.031
Transferrin Saturation (%)	37.20[33.30,43.30]	35.00[31.00,39.37]	34.00[30.00,39.00]	<0.001	35.35[32.19,40.46]	33.98[31.30,39.86]	0.229
alpha-carotene(umol/L)	0.16[0.12,0.24]	0.15[0.12,0.24]	0.13[0.11,0.18]	<0.001	0.16[0.13,0.22]	0.16[0.12,0.22]	0.179
trans-beta-carotene(umol/L)	0.63[0.49,0.94]	0.65[0.52,0.91]	0.55[0.44,0.82]	<0.001	0.79[0.64,1.05]	0.76[0.58,1.05]	0.531
cis-beta-carotene(umol/L)	0.63[0.49,0.94]	0.65[0.52,0.91]	0.55[0.44,0.82]	<0.001	0.05[0.04,0.06]	0.04[0.04,0.07]	0.974
beta-cryptoxanthin(umol/L)	0.33[0.27,0.43]	0.34[0.27,0.44]	0.30[0.25,0.43]	0.009	0.33[0.29,0.41]	0.38[0.33,0.50]	0.002
Lutein and zeaxanthin(umol/L)	0.46[0.40,0.57]	0.50[0.45,0.59]	0.52[0.44,0.65]	<0.001	0.50[0.44,0.59]	0.51[0.42,0.65]	0.903
Creatine Phosphokinase (CPK) (IU/L)	83.00[64.00,197.00]	85.00[65.00,227.00]	78.60[58.00,188.00]	<0.001	79.00[60.00,161.00]	77.00[59.00,183.00]	0.976
Direct HDL-Cholesterol (mg/dL)	72.00[67.00,80.00]	68.00[63.00,76.00]	63.00[59.00,70.00]	<0.001	74.00[68.00,82.00]	69.00[65.00,76.00]	<0.001
Total Cholesterol(mmol/L)	6.21[5.90,6.70]	6.47[6.13,6.98]	6.28[5.90,6.90]	<0.001	6.44[6.13,6.93]	6.52[6.13,6.81]	0.753
Cholesterol, total (mmol/L)	6.21[5.90,6.70]	6.49[6.16,6.98]	6.26[5.87,6.90]	<0.001	6.44[6.10,6.85]	6.36[6.08,6.75]	0.437
Triglyceride (mg/dL)	194.00[165.00,249.00]	217.00[189.00,274.37]	264.83[228.00,357.00]	<0.001	221.46[190.00,271.00]	216.03[190.26,263.25]	0.927
Triglyceride (mmol/L)	2.19[1.86,2.81]	2.45[2.13,3.10]	2.97[2.57,3.94]	<0.001	2.51[2.15,3.06]	2.44[2.16,2.97]	0.938
LDL-cholesterol(mmol/L)	3.96[3.67,4.37]	4.19[3.93,4.68]	3.88[3.60,4.37]	<0.001	4.11[3.85,4.55]	4.22[3.90,4.53]	0.218
Glucose, serum (mmol/L)	5.61[5.44,5.94]	6.38[6.11,6.94]	7.33[5.88,9.88]	<0.001	6.99[6.49,7.88]	7.88[7.08,8.44]	<0.001
Glucose, plasma (mg/dL)	95.00[89.00,102.00]	99.00[94.00,120.00]	214.00[98.00,270.00]	<0.001	97.00[92.00,126.00]	98.00[92.00,147.77]	0.089
Plasma glucose: SI(mmol/L)	5.94[5.77,6.16]	6.72[6.49,7.07]	7.83[6.61,9.83]	<0.001	7.22[6.81,8.06]	8.16[7.48,8.71]	<0.001
C-peptide:SI(nmol/L)	1.14[1.02,1.31]	1.50[1.39,1.83]	1.81[1.62,2.06]	<0.001	1.39[1.23,1.66]	1.52[1.34,1.91]	0.003
Insulin(uU/mL)	7.37[5.16,13.99]	8.59[5.99,22.33]	9.33[6.59,31.52]	<0.001	7.93[5.70,17.82]	8.29[6.10,20.98]	0.185
Insulin:SI(pmol/L)	89.58[85.08,94.25]	77.39[53.36,126.58]	76.87[51.54,196.51]	<0.001	98.59[97.80,98.88]	70.13[44.60,116.00]	<0.001
Two Hour Glucose(OGTT)(mg/dL)	143.00[131.00,164.00]	197.00[177.00,222.00]	400.21[361.31,455.11]	<0.001	192.33[171.00,221.83]	210.57[195.80,244.74]	<0.001

Supplementary Table SV. Gender subgroup comparison of laboratory characteristics between different disease groups

Terms	Gender	Normal	Prediabetes	T2D	p	Normal	MCI	p
White blood cell count(1000 cells/uL)	female	6.90[5.70,8.40]	7.10[5.90,8.70]	7.80[6.40,9.30]	<0.001	7.00[5.90,8.10]	6.60[5.60,7.93]	0.036
	male	6.70[5.60,8.10]	7.20[6.00,8.60]	7.50[6.20,8.90]		6.90[5.70,8.44]	6.80[5.60,8.10]	
Lymphocyte percent(%)	female	29.80[24.80,35.20]	30.90[25.70,36.20]	29.70[24.02,34.80]	<0.001	28.10[22.50,34.94]	29.26[24.20,34.72]	<0.001
	male	29.80[24.80,35.00]	29.00[24.00,34.70]	27.00[22.00,32.80]		25.85[20.41,30.94]	26.10[20.90,31.42]	
Segmented neutrophils percent(%)	female	59.40[53.30,65.10]	58.00[52.10,63.80]	59.50[53.50,65.46]	<0.001	60.18[52.80,66.62]	59.20[53.20,64.50]	<0.001
	male	58.00[52.20,63.70]	58.40[51.80,64.30]	60.90[54.50,66.60]		61.74[54.60,66.80]	61.20[55.00,66.70]	
Eosinophils percent(%)	female	2.00[1.30,3.20]	2.30[1.50,3.40]	2.30[1.60,3.40]	<0.001	2.30[1.50,3.40]	2.30[1.60,3.40]	<0.001
	male	2.50[1.60,3.80]	2.70[1.80,4.00]	2.60[1.70,3.80]		2.80[1.80,4.10]	2.80[1.80,4.09]	
Basophils percent(%)	female	0.60[0.40,0.90]	0.70[0.50,0.90]	0.60[0.50,0.90]	<0.001	0.60[0.40,0.90]	0.70[0.50,0.90]	<0.001
	male	0.60[0.40,0.90]	0.70[0.40,0.90]	0.70[0.50,0.90]		0.60[0.40,0.80]	0.60[0.40,0.90]	
Lymphocyte number(1000 cells/uL)	female	2.00[1.70,2.50]	2.20[1.80,2.70]	2.20[1.80,2.80]	<0.001	1.90[1.50,2.50]	1.90[1.52,2.40]	<0.001
	male	2.00[1.60,2.40]	2.10[1.70,2.60]	2.00[1.60,2.50]		1.70[1.30,2.20]	1.70[1.40,2.10]	
Monocyte number(1000cells/uL)	female	0.50[0.40,0.60]	0.50[0.40,0.70]	0.60[0.40,0.70]	<0.001	0.50[0.40,0.70]	0.50[0.40,0.60]	<0.001
	male	0.60[0.50,0.70]	0.60[0.50,0.70]	0.60[0.50,0.70]		0.60[0.50,0.80]	0.60[0.50,0.70]	
Segmented neutrophils num(1000 cells/uL)	female	4.10[3.20,5.20]	4.10[3.20,5.30]	4.50[3.60,5.70]	<0.001	4.10[3.30,5.10]	3.90[3.10,4.80]	0.001
	male	3.90[3.00,4.90]	4.20[3.30,5.30]	4.50[3.50,5.60]		4.20[3.20,5.20]	4.00[3.30,5.00]	
Eosinophils number(1000 cells/uL)	female	0.10[0.10,0.20]	0.20[0.10,0.20]	0.20[0.10,0.30]	<0.001	0.20[0.10,0.20]	0.20[0.10,0.20]	<0.001
	male	0.20[0.10,0.30]	0.20[0.10,0.30]	0.20[0.10,0.30]		0.20[0.10,0.30]	0.20[0.10,0.30]	
Basophils number(1000 cells/uL)	female	0.00[0.00,0.10]	0.00[0.00,0.10]	0.10[0.00,0.10]	<0.001	0.00[0.00,0.10]	0.00[0.00,0.10]	0.001
	male	0.00[0.00,0.10]	0.00[0.00,0.10]	0.00[0.00,0.10]		0.00[0.00,0.10]	0.00[0.00,0.10]	
Red blood cell count(millioncells/uL)	female	4.44[4.20,4.68]	4.52[4.25,4.77]	4.51[4.22,4.82]	<0.001	4.32[4.05,4.68]	4.40[4.16,4.65]	<0.001
	male	5.01[4.75,5.26]	4.96[4.67,5.23]	4.89[4.56,5.19]		4.72[4.34,5.01]	4.74[4.46,5.01]	
Hemoglobin (g/dL)	female	13.60[12.90,14.20]	13.50[12.70,14.20]	13.40[12.50,14.20]	<0.001	13.20[12.35,14.01]	13.70[12.90,14.30]	<0.001

	male	15.40[14.70,16.00]	15.00[14.30,15.80]	14.90[13.90,15.60]		14.60[13.50,15.52]	14.80[14.10,15.60]	
Hematocrit (%)	female	39.80[37.70,41.80]	39.80[37.50,42.00]	39.30[36.90,42.00]	<0.001	39.30[36.70,42.02]	40.20[38.00,42.30]	<0.001
	male	45.20[43.20,47.20]	44.50[42.20,46.40]	43.80[41.20,46.30]		43.60[40.40,46.00]	43.80[41.40,46.00]	
Mean cell volume(fL)	female	90.20[87.00,93.10]	89.20[85.60,92.20]	88.50[84.90,91.70]	<0.001	90.50[86.90,93.86]	91.35[88.30,93.90]	<0.001
	male	90.20[87.50,93.00]	90.00[86.80,93.00]	89.60[86.50,92.70]		92.30[88.90,95.40]	92.20[89.30,94.90]	
Mean cell hemoglobin(pg)	female	30.70[29.50,31.80]	30.10[28.70,31.30]	29.90[28.40,31.10]	<0.001	30.50[29.00,31.90]	31.10[29.90,32.10]	<0.001
	male	30.80[29.80,31.90]	30.60[29.30,31.60]	30.50[29.20,31.70]		31.10[29.80,32.70]	31.40[30.40,32.60]	
Mean Cell Hgb Conc.(g/dL)	female	34.00[33.40,34.50]	33.70[33.10,34.30]	33.70[33.00,34.20]	<0.001	33.70[33.00,34.20]	34.00[33.40,34.60]	<0.001
	male	34.10[33.60,34.70]	33.80[33.30,34.40]	33.90[33.30,34.50]		33.70[33.20,34.40]	34.00[33.50,34.60]	
Red cell distribution width(%)	female	12.70 [12.20, 13.40]	13.30 [12.60, 14.00]	13.30 [12.60, 14.20]	<0.001	13.10[12.50,14.00]	12.90[12.40,13.60]	<0.001
	male	12.60 [12.20, 13.10]	13.10 [12.50, 13.70]	13.10 [12.50, 13.80]		13.30[12.70,13.99]	13.00[12.50,13.70]	
Platelet count(1000cells/uL)	female	260.00 [222.00, 304.00]	263.00 [222.00, 313.00]	261.00 [217.55, 313.97]	<0.001	244.00[202.00,295.45]	244.00[207.00,287.86]	<0.001
	male	235.00 [202.00, 272.00]	234.00 [199.00, 276.00]	223.00 [186.00, 263.00]		210.00[178.00,259.36]	218.00[182.00,253.00]	
Mean platelet volume(fL)	female	8.10 [7.60, 8.70]	8.10 [7.60, 8.80]	8.20 [7.60, 8.90]	<0.001	8.40[7.77,9.00]	8.20[7.60,8.90]	0.305
	male	8.10 [7.50, 8.60]	8.10 [7.50, 8.70]	8.20 [7.60, 8.90]		8.20[7.70,8.98]	8.20[7.60,8.90]	
Folate, RBC (nmol/L RBC)	female	850.00 [610.00, 1190.00]	1000.00 [703.00, 1409.15]	1050.00 [731.60, 1500.00]	<0.001	908.30[640.34,1279.70]	1087.20[779.00,1560.00]	<0.001
	male	806.30 [575.30, 1130.00]	900.42 [634.20, 1251.22]	1020.00 [729.28, 1450.00]		796.00[566.30,1200.44]	1010.01[740.92,1470.00]	
Folate, serum(nmol/L)	female	32.00 [22.00, 45.80]	35.30 [23.60, 55.64]	36.00 [23.95, 55.70]	<0.001	38.70[25.10,56.33]	42.60[29.46,59.80]	<0.001
	male	27.60 [19.70, 38.70]	29.50 [20.20, 43.81]	32.30 [23.10, 46.00]		29.70[19.27,40.80]	36.68[25.80,51.20]	
Vitamin B12(pmol/L)	female	343.17 [255.30, 470.11]	380.07 [276.98, 519.60]	363.10 [267.20, 528.02]	<0.001	407.46[280.99,562.14]	400.00[287.10,575.60]	<0.001
	male	350.55 [272.30, 451.70]	346.88 [262.00, 456.10]	363.10 [268.60, 492.99]		335.95[242.80,467.77]	360.90[264.90,477.90]	
Homocysteine(umol/L)	female	6.96 [5.79, 8.50]	7.94 [6.55, 9.92]	8.15 [6.25, 10.29]	<0.001	9.76[7.44,13.08]	8.62[7.13,10.61]	<0.001
	male	8.45 [7.18, 10.10]	8.97 [7.71, 11.00]	9.21 [7.56, 11.44]		11.03[9.09,13.51]	9.75[8.05,11.61]	
Blood mercury, total(nmol/L)	female	4.49 [2.30, 8.90]	4.40 [2.25, 8.48]	3.90 [2.10, 6.99]	<0.001	3.70[1.70,8.98]	5.20[2.50,10.20]	0.017
	male	4.49 [2.30, 9.20]	4.90 [2.50, 9.98]	4.00 [2.20, 9.42]		3.30[1.68,6.20]	4.90[2.80,11.59]	

Mercury, inorganic(nmol/L)	female	1.40 [1.25, 1.50]	1.25 [0.95, 1.50]	1.25 [0.95, 1.50]	<0.001	0.95[0.95,1.44]	0.95[0.95,1.70]	0.014
	male	1.25 [0.95, 1.50]	1.25 [0.95, 1.50]	1.25 [0.95, 1.50]		0.95[0.95,0.95]	0.95[0.95,1.75]	
Tot Iron Binding Capacity TIBC(umol/L)	female	63.90 [57.28, 71.96]	62.47 [56.24, 69.30]	62.48 [56.11, 69.82]	<0.001	63.09[56.19,70.61]	65.31[58.35,71.60]	<0.001
	male	60.50 [54.63, 67.30]	59.11 [53.91, 65.69]	60.00 [53.91, 66.23]		61.94[54.95,68.74]	61.93[56.03,68.80]	
Ferritin(ug/L)	female	43.00 [23.00, 78.00]	63.42 [30.81, 114.00]	75.87 [36.35, 149.30]	<0.001	97.18[53.00,154.00]	87.00[46.00,146.00]	<0.001
	male	141.00 [86.00, 227.07]	158.00 [93.00, 267.42]	162.92 [85.70, 293.81]		130.00[74.00,249.31]	134.00[70.66,232.00]	
Cotinine, Serum (ng/mL)	female	0.04 [0.01, 0.98]	0.03 [0.01, 0.50]	0.04 [0.01, 0.32]	<0.001	0.04[0.02,0.13]	0.03[0.01,0.08]	<0.001
	male	0.10 [0.02, 95.25]	0.07 [0.02, 125.00]	0.04 [0.01, 9.02]		0.09[0.02,38.27]	0.04[0.01,0.17]	
gamma-tocopherol (umol/L)	female	4.52 [2.88, 6.39]	5.09 [3.22, 7.44]	5.62 [3.70, 8.51]	<0.001	4.15[2.66,7.60]	4.32[2.35,7.06]	0.044
	male	4.71 [3.22, 6.51]	5.02 [3.39, 7.26]	5.33 [3.41, 7.70]		5.09[3.06,7.78]	4.41[2.23,7.05]	
Retinyl palmitate (umol/L)	female	0.05 [0.03, 0.08]	0.05 [0.03, 0.08]	0.05 [0.03, 0.09]	<0.001	0.05[0.04,0.09]	0.06[0.04,0.11]	<0.001
	male	0.05 [0.03, 0.09]	0.05 [0.03, 0.08]	0.06 [0.03, 0.10]		0.04[0.02,0.08]	0.07[0.04,0.11]	
Retinyl stearate (umol/L)	female	0.02 [0.01, 0.02]	0.02 [0.01, 0.02]	0.02 [0.01, 0.02]	<0.001	0.01[0.01,0.02]	0.01[0.01,0.01]	0.085
	male	0.02 [0.01, 0.02]	0.02 [0.01, 0.02]	0.02 [0.01, 0.02]		0.01[0.01,0.01]	0.01[0.01,0.02]	
Retinol (umol/L)	female	1.83 [1.51, 2.23]	1.92 [1.57, 2.31]	1.97 [1.59, 2.45]	<0.001	2.16[1.76,2.57]	2.23[1.91,2.59]	<0.001
	male	2.12 [1.80, 2.49]	2.04 [1.75, 2.43]	2.14 [1.77, 2.59]		2.08[1.76,2.63]	2.37[2.01,2.76]	
Albumin, urine(ug/mL)	female	6.60[3.30,13.20]	7.40[3.80,15.30]	10.43[4.90,28.02]	<0.001	15.22[5.46,37.33]	7.00[3.50,14.51]	<0.001
	male	6.70[3.80,11.90]	8.10[4.60,16.28]	15.70[6.70,50.00]		15.79[7.90,38.94]	8.90[4.50,20.90]	
Albumin (g/L)	female	42.00 [40.00, 44.00]	42.00 [40.00, 44.00]	41.00 [39.00, 43.00]	<0.001	42.00[40.00,44.00]	42.00[41.00,44.00]	<0.001
	male	44.00 [42.00, 46.00]	43.00 [41.00, 45.00]	42.00 [40.00, 45.00]		42.00[40.00,45.00]	43.00[41.00,45.00]	
Creatinine, urine(mg/dL)	female	93.00[49.00,150.00]	86.00[48.00,136.00]	88.00[50.00,134.00]	<0.001	81.00[46.00,123.13]	72.00[40.00,115.00]	<0.001
	male	137.00[81.00,197.00]	134.00[85.00,186.00]	118.00[80.00,169.00]		121.00[81.00,183.00]	116.00[74.00,164.00]	
Creatinine(umol/L)	female	63.65[55.69,71.60]	68.07[60.11,79.56]	67.18[56.58,80.44]	<0.001	70.72[61.00,91.05]	69.84[60.61,79.56]	<0.001
	male	83.98[76.02,94.59]	86.63[75.14,97.24]	84.86[71.60,99.01]		88.40[78.63,108.66]	88.40[79.56,100.78]	
Alanine Aminotransferase (ALT) (U/L)	female	17.00 [14.00, 22.00]	19.00 [15.00, 25.00]	20.00 [16.00, 27.00]	<0.001	18.00[15.00,22.00]	19.00[16.00,23.00]	<0.001

	male	25.00 [19.00, 33.00]	26.00 [19.00, 34.00]	25.00 [19.00, 34.00]		19.00[15.00,26.00]	22.00[18.00,28.00]	
Aspartate Aminotransferase (AST) (U/L)	female	21.00 [18.00, 24.00]	22.00 [19.00, 26.00]	22.00 [18.00, 27.00]	<0.001	22.48[20.00,27.00]	22.00[20.00,27.00]	0.001
	male	24.00 [21.00, 29.00]	25.00 [21.00, 29.00]	23.00 [20.00, 29.00]		23.00[20.00,28.00]	24.00[20.00,27.00]	
Alkaline Phosphatase (ALP) (U/L)	female	63.00 [51.00, 77.00]	71.00 [59.00, 87.00]	74.00 [59.00, 93.00]	<0.001	76.00[59.38,96.42]	69.00[57.00,83.20]	<0.001
	male	67.00 [55.00, 80.00]	68.00 [56.00, 82.00]	69.00 [56.00, 86.00]		76.00[62.00,92.00]	64.00[52.00,78.00]	
Blood urea nitrogen (mmol/L)	female	3.93 [3.21, 5.00]	4.64 [3.57, 6.07]	5.00 [3.90, 6.43]	<0.001	5.71[4.60,7.50]	5.36[4.28,6.43]	<0.001
	male	4.64 [3.93, 5.71]	5.00 [3.93, 6.07]	5.70 [4.28, 6.78]		5.40[4.60,7.14]	5.71[4.64,7.10]	
Total Calcium (mmol/L)	female	2.35 [2.28, 2.40]	2.35 [2.30, 2.40]	2.35 [2.30, 2.42]	<0.001	2.38[2.30,2.45]	2.38[2.30,2.42]	<0.001
	male	2.38 [2.33, 2.42]	2.35 [2.30, 2.40]	2.35 [2.30, 2.42]		2.35[2.30,2.40]	2.35[2.30,2.40]	
Bicarbonate (mmol/L)	female	24.00 [23.00, 26.00]	25.00 [24.00, 27.00]	25.00 [23.00, 26.00]	<0.001	25.00[23.00,26.00]	25.00[24.00,27.00]	0.051
	male	25.00[24.00,27.00]	25.00[24.00,27.00]	25.00[23.00,26.00]		25.00[23.00,27.00]	25.00[24.00,27.00]	
Gamma Glutamyl Transferase (GGT) (U/L)	female	15.00[11.00,21.00]	19.00[14.00,28.00]	23.00[16.00,36.00]	<0.001	19.51[14.00,31.00]	18.00[13.00,26.00]	<0.001
	male	22.00[16.00,33.00]	25.00[18.00,38.00]	27.00[19.00,42.00]		23.00[16.00,34.26]	22.00[16.00,30.00]	
Iron (umol/L)	female	14.10[10.40,18.60]	12.90[9.70,16.30]	12.20[9.30,15.80]	<0.001	12.72[10.11,16.66]	14.33[11.10,18.27]	<0.001
	male	16.70[13.10,21.13]	15.60[12.00,19.50]	14.87[11.60,18.60]		15.19[11.10,19.16]	15.90[12.50,19.70]	
Lactate Dehydrogenase (LDH) (U/L)	female	126.00[110.00,144.00]	138.00[121.00,158.00]	135.00[118.00,157.00]	<0.001	148.00[128.00,171.00]	138.00[123.00,155.00]	<0.001
	male	128.00[113.00,145.00]	134.00[118.00,153.00]	132.00[115.00,153.00]		138.00[120.00,160.00]	129.00[115.00,147.00]	
Phosphorus (mmol/L)	female	1.23[1.10,1.32]	1.23[1.13,1.36]	1.23[1.10,1.36]	<0.001	1.20[1.10,1.29]	1.23[1.13,1.36]	<0.001
	male	1.16[1.07,1.29]	1.16[1.03,1.29]	1.16[1.03,1.29]		1.10[0.97,1.23]	1.13[1.00,1.23]	
Bilirubin,total(umol/L)	female	10.26[6.84,11.97]	8.55[6.84,11.97]	8.55[6.84,11.97]	<0.001	10.26[8.55,11.98]	10.26[8.55,11.97]	<0.001
	male	11.97[10.26,15.39]	11.97[8.55,13.68]	11.97[8.55,13.68]		10.30[8.60,13.68]	11.97[10.26,15.39]	
Protein,total(g/L)	female	71.00[68.00,74.00]	71.00[68.00,74.00]	71.00[68.00,74.00]	<0.001	73.00[69.00,77.00]	71.00[67.00,74.00]	<0.001
	male	72.00[69.00,75.00]	72.00[69.00,75.00]	71.00[68.00,75.00]		74.00[70.00,77.00]	71.00[68.00,74.00]	
Uric acid(umol/L)	female	261.70[226.00,309.30]	303.30[255.80,350.90]	315.20[255.80,380.70]	<0.001	309.30[255.80,386.60]	303.30[255.80,356.90]	<0.001
	male	356.90[309.30,404.50]	362.80[315.20,416.40]	345.00[285.50,410.40]		356.90[303.30,416.40]	356.90[303.30,410.40]	

Sodium(mmol/L)	female	139.00[138.00,140.00]	139.00[138.00,141.00]	139.00[137.00,141.00]	<0.001	139.91[138.00,141.00]	140.00[138.00,141.00]	0.889
	male	140.00[138.00,141.00]	139.00[138.00,141.00]	139.00[137.00,140.67]		140.00[138.00,141.00]	140.00[138.00,141.00]	
Potassium(mmol/L)	female	3.90[3.70,4.10]	4.00[3.80,4.20]	4.00[3.80,4.29]	<0.001	4.10[3.80,4.31]	4.00[3.80,4.28]	<0.001
	male	4.00[3.80,4.20]	4.10[3.90,4.30]	4.10[3.90,4.38]		4.20[3.95,4.50]	4.14[3.90,4.40]	
Chloride(mmol/L)	female	104.00[102.00,106.00]	103.00[101.00,105.00]	102.00[100.00,105.00]	<0.001	103.00[100.00,105.00]	103.00[101.00,105.00]	0.002
	male	103.00[101.00,105.00]	103.00[101.00,105.00]	102.00[100.00,104.00]		103.00[100.80,105.00]	103.90[102.00,105.00]	
Transferrin Saturation (%)	female	22.60[15.90,30.10]	21.00[15.30,27.00]	21.00[15.20,27.00]	<0.001	21.00[15.17,27.16]	22.05[17.32,28.93]	<0.001
	male	28.00[21.80,36.00]	26.50[21.00,34.00]	25.00[19.50,31.70]		24.39[17.20,32.47]	26.02[20.30,32.80]	
Globulin (g/L)	female	29.00[26.00,32.00]	29.00[27.00,33.00]	30.61[28.00,34.00]	<0.001	31.00[27.00,35.00]	28.00[25.00,31.00]	<0.001
	male	28.00[25.00,30.00]	29.00[26.00,32.00]	29.00[26.00,32.00]		31.00[28.00,34.00]	27.00[25.00,31.00]	
alpha-carotene(umol/L)	female	0.06[0.03,0.12]	0.05[0.03,0.10]	0.05[0.03,0.09]	<0.001	0.05[0.04,0.11]	0.07[0.04,0.12]	0.003
	male	0.04[0.02,0.09]	0.04[0.03,0.09]	0.04[0.02,0.07]		0.04[0.02,0.07]	0.06[0.03,0.10]	
trans-beta-carotene(umol/L)	female	0.27[0.15,0.49]	0.26[0.16,0.44]	0.21[0.11,0.38]	<0.001	0.37[0.21,0.59]	0.37[0.22,0.59]	0.001
	male	0.19[0.12,0.35]	0.20[0.12,0.35]	0.16[0.09,0.32]		0.20[0.09,0.34]	0.31[0.18,0.50]	
cis-beta-carotene(umol/L)	female	0.02[0.01,0.03]	0.02[0.01,0.03]	0.01[0.01,0.02]	<0.001	0.02[0.01,0.04]	0.02[0.01,0.04]	<0.001
	male	0.01[0.01,0.02]	0.01[0.01,0.02]	0.01[0.01,0.02]		0.01[0.01,0.02]	0.02[0.01,0.03]	
beta-cryptoxanthin(umol/L)	female	0.13[0.08,0.21]	0.12[0.07,0.20]	0.11[0.06,0.18]	<0.001	0.16[0.09,0.29]	0.16[0.10,0.26]	<0.001
	male	0.13[0.08,0.20]	0.12[0.07,0.20]	0.10[0.06,0.17]		0.10[0.05,0.18]	0.14[0.08,0.21]	
Lutein and zeaxanthin(umol/L)	female	0.26[0.18,0.36]	0.26[0.19,0.38]	0.25[0.18,0.38]	0.011	0.30[0.20,0.41]	0.28[0.20,0.40]	0.002
	male	0.25[0.18,0.35]	0.28[0.20,0.38]	0.26[0.18,0.35]		0.21[0.16,0.32]	0.27[0.19,0.37]	
trans-lycopene(umol/L)	female	0.40[0.28,0.53]	0.36[0.25,0.50]	0.34[0.22,0.47]	<0.001	0.32[0.23,0.40]	0.35[0.22,0.50]	0.127
	male	0.43[0.31,0.58]	0.39[0.26,0.57]	0.35[0.22,0.50]		0.27[0.15,0.45]	0.33[0.21,0.48]	
VitaminD(nmol/L)	female	61.60[46.80,77.80]	54.40[39.80,68.90]	51.90[37.50,68.00]	<0.001	51.60[39.70,70.60]	58.70[46.80,75.40]	0.063
	male	63.10[50.80,76.20]	56.06[43.40,68.20]	55.70[42.00,68.90]		58.70[44.40,70.60]	63.50[51.60,73.00]	
Creatine Phosphokinase (CPK) (IU/L)	female	82.00[61.00,114.00]	92.00[66.00,131.00]	79.00[54.00,119.00]	<0.001	91.04[59.86,136.04]	82.00[59.26,111.00]	<0.001

	male	140.00[98.00,215.00]	150.00[101.00,230.00]	117.00[83.00,191.00]		106.59[69.92,169.18]	117.00[82.00,174.00]	
Direct HDL-Cholesterol(mmol/L)	female	1.53[1.27,1.81]	1.40[1.16,1.71]	1.27[1.06,1.50]	<0.001	1.42[1.19,1.73]	1.50[1.27,1.84]	<0.001
	male	1.22[1.03,1.45]	1.16[0.98,1.37]	1.09[0.91,1.27]		1.16[1.01,1.37]	1.24[1.03,1.50]	
Direct HDL-Cholesterol (mg/dL)	female	58.00[48.00,69.00]	53.00[45.00,65.00]	48.00[41.00,58.00]	<0.001	55.00[45.00,67.00]	57.00[48.00,70.00]	<0.001
	male	46.00[39.00,56.00]	44.00[37.00,53.00]	41.00[35.00,48.00]		44.00[38.00,53.00]	46.00[39.00,56.00]	
Total Cholesterol(mmol/L)	female	4.99[4.34,5.69]	5.30[4.65,6.00]	4.94[4.22,5.74]	<0.001	5.38[4.60,6.21]	5.43[4.81,6.15]	<0.001
	male	4.91[4.24,5.61]	5.07[4.37,5.79]	4.55[3.85,5.40]		4.81[4.11,5.60]	4.84[4.14,5.52]	
Cholesterol, total (mmol/L)	female	4.99 [4.34, 5.72]	5.30 [4.65, 6.03]	4.91 [4.19, 5.72]	<0.001	5.28[4.55,6.13]	5.40[4.75,6.10]	<0.001
	male	4.91 [4.27, 5.61]	5.04 [4.37, 5.82]	4.53 [3.83, 5.40]		4.73[4.02,5.51]	4.81[4.06,5.48]	
Triglyceride (mg/dL)	female	90.00 [63.00, 130.00]	115.00 [82.00, 165.00]	142.00 [99.00, 200.00]	<0.001	121.64[82.41,171.71]	123.16[86.00,172.00]	0.445
	male	105.00 [73.00, 156.00]	118.00 [84.00, 174.00]	141.00 [94.00, 208.00]		112.11[81.00,153.15]	114.33[79.00,168.49]	
Triglyceride (mmol/L)	female	1.02 [0.71, 1.47]	1.30 [0.93, 1.86]	1.60 [1.12, 2.26]	<0.001	1.37[0.93,1.94]	1.39[0.97,1.94]	0.445
	male	1.19 [0.82, 1.76]	1.33 [0.95, 1.96]	1.59 [1.06, 2.35]		1.26[0.91,1.73]	1.30[0.89,1.90]	
LDL-cholesterol(mmol/L)	female	2.85 [2.30, 3.49]	3.08 [2.53, 3.72]	2.71 [2.07, 3.41]	<0.001	2.93[2.33,3.62]	3.10[2.56,3.75]	<0.001
	male	2.95 [2.38, 3.54]	3.08 [2.46, 3.70]	2.48 [1.94, 3.18]		2.79[2.20,3.57]	2.87[2.20,3.43]	
Glycohemoglobin(%)	female	5.20[5.00,5.40]	5.80[5.70,6.00]	6.90[6.30,7.90]	<0.001	152.55(57.67)	133.92(51.11)	0.001
	male	5.30[5.10,5.40]	5.80[5.70,6.00]	7.10[6.50,8.20]		167.38(78.03)	126.71(50.60)	
Glucose, serum (mmol/L)	female	4.83[4.50,5.16]	5.33[4.94,5.83]	7.05[5.77,9.60]	<0.001	5.50[5.05,6.37]	5.27[4.88,5.83]	<0.001
	male	5.00[4.66,5.38]	5.44[5.00,5.94]	7.66[6.00,10.44]		5.61[5.11,6.66]	5.44[5.00,6.16]	
Glucose, plasma (mg/dL)	female	93.00 [88.00, 99.00]	104.00 [97.00, 111.60]	134.00 [115.00, 172.00]	<0.001	106.00[95.89,123.21]	102.00[94.40,111.09]	<0.001
	male	98.00 [92.00, 104.00]	107.00 [99.86, 115.00]	149.00 [124.95, 193.94]		107.00[96.38,129.00]	105.00[97.20,116.16]	
Plasma glucose: SI(mmol/L)	female	5.16 [4.88, 5.50]	5.77 [5.38, 6.19]	7.44 [6.38, 9.55]	<0.001	5.88[5.33,6.84]	5.66[5.24,6.17]	<0.001
	male	5.44 [5.11, 5.77]	5.94 [5.54, 6.38]	8.27 [6.94, 10.75]		5.94[5.35,7.16]	5.83[5.40,6.45]	
C-peptide:SI(nmol/L)	female	0.65 [0.49, 0.87]	0.94 [0.73, 1.30]	1.02 [0.76, 1.28]	<0.001	0.99[0.64,1.35]	0.81[0.60,1.05]	0.016
	male	0.67 [0.51, 0.93]	1.00 [0.76, 1.31]	1.12 [0.79, 1.57]		0.90[0.62,1.18]	0.82[0.64,1.16]	

Insulin(uU/mL)	female	7.99 [5.33, 12.11]	11.61 [7.53, 18.30]	14.24 [9.21, 23.23]	<0.001	11.52[7.01,16.59]	9.90[6.38,14.78]	0.061
	male	8.60 [5.66, 13.59]	11.96 [7.06, 18.95]	13.84 [8.18, 23.72]		11.21[6.81,16.05]	10.05[6.71,15.67]	
Insulin:SI(pmol/L)	female	51.18 [38.04, 73.11]	82.91 [56.32, 122.50]	110.68 [65.48, 145.67]	<0.001	71.99[47.06,130.42]	59.85[41.40,84.80]	0.055
	male	54.47 [39.72, 78.82]	83.74 [53.26, 115.69]	107.82 [61.68, 184.27]		67.21[43.53,91.96]	60.16[43.93,94.06]	
Two Hour Glucose(OGTT)(mg/dL)	female	100.00[83.00,121.00]	128.00[104.00,163.00]	265.77[186.67,320.00]	<0.001	139.00[107.96,185.76]	123.00[99.53,157.87]	0.001
	male	99.00[81.00,121.00]	122.00[95.00,156.00]	274.66[218.12,334.35]		150.00[112.74,196.58]	117.00[91.76,154.00]	

Supplementary Table SVI. Age subgroup comparison of laboratory characteristics between different disease groups

Terms	Age	Normal	Prediabetes	T2D	P
White blood cell count(1000 cells/uL)	old	6.50[5.50,7.70]	6.90[5.90,8.20]	7.40[6.10,8.80]	<0.001
	young	6.90[5.70,8.40]	7.40[6.10,9.00]	7.80[6.40,9.30]	
Lymphocyte percent(%)	old	27.80[22.60,33.20]	28.60[23.10,34.40]	27.00[21.80,33.00]	<0.001
	young	30.20[25.20,35.40]	31.10[26.10,36.40]	29.42[24.00,35.10]	
Segmented neutrophils percent(%)	old	59.90[53.80,65.40]	58.90[52.50,64.90]	60.70[54.40,66.30]	<0.001
	young	58.60[52.50,64.20]	57.70[51.60,63.40]	59.75[53.40,65.70]	
Eosinophils percent(%)	old	2.50[1.70,3.70]	2.60[1.70,3.90]	2.60[1.80,3.80]	<0.001
	young	2.20[1.40,3.40]	2.30[1.60,3.60]	2.30[1.60,3.40]	
Basophils percent(%)	old	0.70[0.50,0.90]	0.70[0.50,0.90]	0.70[0.50,0.90]	<0.001
	young	0.60[0.40,0.90]	0.70[0.40,0.90]	0.60[0.40,0.90]	
Lymphocyte number(1000 cells/uL)	old	1.80[1.40,2.20]	1.90[1.60,2.40]	2.00[1.50,2.50]	<0.001
	young	2.00[1.70,2.50]	2.30[1.80,2.80]	2.20[1.80,2.80]	
Monocyte number(1000cells/uL)	old	0.50[0.40,0.70]	0.60[0.50,0.70]	0.60[0.50,0.70]	<0.001
	young	0.50[0.40,0.60]	0.60[0.40,0.70]	0.60[0.40,0.70]	
Segmented neutrophils num(1000 cells/uL)	old	3.80[3.10,4.80]	4.00[3.20,5.00]	4.40[3.50,5.50]	<0.001
	young	4.00[3.10,5.10]	4.20[3.20,5.50]	4.60[3.60,5.70]	
Eosinophils number(1000 cells/uL)	old	0.20[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]	<0.001
	young	0.20[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]	
Basophils number(1000 cells/uL)	old	0.00[0.00,0.10]	0.00[0.00,0.10]	0.10[0.00,0.10]	<0.001
	young	0.00[0.00,0.10]	0.00[0.00,0.10]	0.10[0.00,0.10]	
Red blood cell count(millioncells/uL)	old	4.57[4.26,4.87]	4.60[4.30,4.91]	4.59[4.24,4.91]	<0.001
	young	4.72[4.40,5.07]	4.80[4.49,5.13]	4.82[4.49,5.14]	
Hemoglobin (g/dL)	old	14.20[13.40,15.10]	14.10[13.20,15.00]	13.90[12.90,14.90]	<0.001

	young	14.50[13.50,15.50]	14.30[13.30,15.30]	14.40[13.30,15.40]	
Hematocrit (%)	old	41.80[39.20,44.60]	41.60[38.80,44.30]	40.90[37.70,43.90]	<0.001
	young	42.50[39.30,45.50]	42.40[39.20,45.30]	42.40[39.20,45.20]	
Mean cell volume(fL)	old	92.20[89.30,95.07]	91.00[88.10,93.70]	90.10[86.90,93.10]	<0.001
	young	89.80[86.90,92.60]	88.40[84.90,91.40]	88.01[84.70,91.10]	
Mean cell hemoglobin(pg)	old	31.30[30.20,32.40]	30.80[29.70,31.90]	30.40[29.10,31.70]	<0.001
	young	30.70[29.50,31.70]	30.00[28.50,31.20]	30.00[28.60,31.10]	
Mean Cell Hgb Conc.(g/dL)	old	33.90[33.40,34.50]	33.80[33.20,34.30]	33.80[33.10,34.30]	<0.001
	young	34.00[33.50,34.60]	33.80[33.20,34.40]	33.90[33.30,34.50]	
Red cell distribution width(%)	old	12.90[12.40,13.60]	13.30[12.70,13.90]	13.40[12.70,14.10]	<0.001
	young	12.60[12.10,13.20]	13.10[12.50,13.90]	13.10[12.40,13.80]	
Platelet count(1000cells/uL)	old	233.00[196.00,273.00]	236.00[199.00,279.00]	228.00[190.00,274.00]	<0.001
	young	249.00[214.00,292.00]	259.00[219.00,306.00]	255.00[212.00,306.00]	
Mean platelet volume(fL)	old	8.10[7.50,8.70]	8.10[7.50,8.70]	8.20[7.60,8.90]	<0.001
	young	8.10[7.60,8.70]	8.10[7.60,8.80]	8.20[7.60,8.90]	
Folate, RBC (nmol/L RBC)	old	1014.70[733.90,1490.00]	1080.00[752.97,1550.00]	1090.00[770.06,1570.00]	<0.001
	young	801.80[573.00,1118.25]	887.18[627.00,1200.00]	971.02[697.87,1370.00]	
Folate, serum(nmol/L)	old	41.60[27.40,60.70]	41.40[27.40,63.20]	38.20[26.30,60.70]	<0.001
	young	28.50[20.00,39.90]	27.60[19.60,40.70]	30.40[21.60,42.60]	
Vitamin B12(pmol/L)	old	374.90[270.85,519.55]	370.37[264.94,514.85]	360.27[260.60,521.25]	<0.001
	young	343.17[262.73,451.70]	357.91[270.81,470.10]	363.82[275.30,497.41]	
Homocysteine(umol/L)	old	9.38[7.76,11.61]	9.58[8.03,11.62]	9.82[7.84,12.25]	<0.001
	young	7.44[6.22,8.94]	7.86[6.58,9.39]	7.89[6.18,9.42]	
Blood mercury, total(nmol/L)	old	5.49[2.70,10.98]	5.00[2.50,9.30]	3.99[2.25,8.48]	<0.001
	young	4.30[2.20,8.52]	4.31[2.20,8.98]	3.99[2.00,7.90]	

Mercury, inorganic(nmol/L)	old	1.25[1.25,1.60]	1.25[0.95,1.50]	1.25[0.95,1.50]	<0.001
	young	1.25[1.25,1.50]	1.25[0.95,1.50]	1.25[0.95,1.50]	
Tot Iron Binding Capacity TIBC(umol/L)	old	59.44[53.73,67.30]	59.64[54.09,65.87]	60.14[53.55,66.23]	<0.001
	young	63.01[56.60,70.53]	61.93[56.06,68.38]	62.47[56.39,70.48]	
Ferritin(ug/L)	old	108.00[56.00,185.00]	109.36[64.00,188.66]	123.00[62.00,230.93]	<0.001
	young	61.00[28.60,122.00]	79.90[34.00,158.00]	99.80[42.31,206.00]	
Cotinine, Serum (ng/mL)	old	0.03[0.01,0.12]	0.03[0.01,0.20]	0.03[0.01,0.17]	<0.001
	young	0.07[0.02,48.60]	0.08[0.02,120.25]	0.06[0.02,27.41]	
gamma-tocopherol (umol/L)	old	3.77[2.20,6.10]	4.32[2.69,6.56]	4.68[2.98,7.16]	<0.001
	young	4.73[3.24,6.51]	5.55[3.96,7.81]	6.17[4.13,9.10]	
Retinyl palmitate (umol/L)	old	0.06[0.03,0.09]	0.05[0.03,0.09]	0.06[0.03,0.10]	<0.001
	young	0.05[0.03,0.09]	0.05[0.03,0.08]	0.05[0.03,0.09]	
Retinyl stearate (umol/L)	old	0.02[0.01,0.02]	0.02[0.01,0.02]	0.02[0.01,0.02]	<0.001
	young	0.02[0.01,0.02]	0.02[0.01,0.02]	0.02[0.01,0.02]	
Retinol (umol/L)	old	2.19[1.84,2.59]	2.10[1.77,2.51]	2.22[1.80,2.65]	<0.001
	young	1.94[1.60,2.33]	1.90[1.58,2.27]	1.92[1.58,2.34]	
Albumin, urine(ug/mL)	old	7.30[3.70,14.90]	8.20[4.20,17.30]	14.00[6.10,42.50]	<0.001
	young	6.60[3.40,12.20]	7.50[4.10,15.00]	11.80[5.40,31.38]	
Albumin (g/L)	old	42.00[41.00,44.00]	42.00[40.00,44.00]	42.00[39.00,44.00]	<0.001
	young	44.00[41.00,46.00]	42.00[40.00,44.00]	42.00[39.00,44.00]	
Creatinine, urine(mg/dL)	old	88.14[50.00,137.00]	95.00[53.00,143.00]	99.00[61.00,146.00]	<0.001
	young	119.00[64.00,180.00]	120.00[68.00,179.00]	107.00[67.00,162.00]	
Creatinine(umol/L)	old	79.56[66.30,92.82]	79.56[68.07,95.47]	83.10[70.70,103.43]	<0.001
	young	71.60[61.88,85.75]	73.37[61.90,86.63]	70.72[59.23,84.86]	
Alanine Aminotransferase (ALT) (U/L)	old	19.00[16.00,25.00]	20.00[16.00,25.00]	21.00[16.00,27.00]	<0.001

	young	21.00[16.00,29.00]	24.00[18.00,33.00]	25.00[19.00,36.00]	
Aspartate Aminotransferase (AST) (U/L)	old	23.00[20.00,27.00]	23.00[20.00,27.00]	22.00[19.00,27.00]	<0.001
	young	22.00[19.00,27.00]	23.00[19.00,28.00]	23.00[19.00,29.00]	
Alkaline Phosphatase (ALP) (U/L)	old	68.00[57.00,83.00]	70.00[57.00,85.00]	70.00[56.00,87.00]	<0.001
	young	64.00[52.00,78.00]	69.75[58.00,84.00]	73.00[58.00,91.00]	
Blood urea nitrogen (mmol/L)	old	5.36[4.28,6.78]	5.71[4.64,6.78]	6.07[4.64,7.50]	<0.001
	young	4.28[3.21,5.36]	4.30[3.57,5.36]	4.64[3.57,5.71]	
Total Calcium (mmol/L)	old	2.35[2.30,2.42]	2.35[2.30,2.42]	2.38[2.30,2.42]	<0.001
	young	2.35[2.30,2.42]	2.35[2.30,2.40]	2.35[2.30,2.42]	
Bicarbonate (mmol/L)	old	25.00[24.00,27.00]	26.00[24.00,27.00]	25.00[23.00,27.00]	<0.001
	young	25.00[23.00,26.00]	25.00[23.00,26.00]	25.00[23.00,26.00]	
Gamma Glutamyl Transferase (GGT) (U/L)	old	19.00[14.00,27.00]	20.00[15.00,28.00]	22.00[16.00,34.00]	<0.001
	young	18.00[13.00,28.00]	24.00[17.00,36.00]	28.00[19.00,44.00]	
Iron (umol/L)	old	15.58[12.18,19.20]	14.50[11.30,18.10]	13.40[10.57,17.00]	<0.001
	young	15.40[11.60,20.10]	13.80[10.20,18.10]	13.60[10.40,17.62]	
Lactate Dehydrogenase (LDH) (U/L)	old	138.00[123.00,157.00]	140.00[123.00,160.00]	136.00[118.00,158.00]	<0.001
	young	125.00[110.00,142.00]	133.00[117.24,153.00]	131.00[115.00,151.00]	
Phosphorus (mmol/L)	old	1.19[1.07,1.29]	1.20[1.10,1.32]	1.19[1.07,1.32]	<0.001
	young	1.20[1.10,1.32]	1.20[1.07,1.32]	1.20[1.07,1.32]	
Bilirubin,total(umol/L)	old	11.97[8.55,13.70]	10.26[8.55,13.68]	10.26[8.55,13.68]	<0.001
	young	10.30[8.55,13.68]	10.26[6.84,11.97]	10.26[6.84,13.68]	
Protein,total(g/L)	old	11.97[8.55,13.70]	10.26[8.55,13.68]	10.26[8.55,13.68]	<0.001
	young	10.30[8.55,13.68]	10.26[6.84,11.97]	10.26[6.84,13.68]	
Uric acid(umol/L)	old	321.20[267.70,374.70]	333.10[279.60,392.60]	345.00[285.50,410.40]	<0.001
	young	309.30[249.80,368.80]	333.10[279.60,386.60]	315.20[261.70,380.70]	

Sodium(mmol/L)	old	140.00[138.00,141.00]	140.00[138.00,141.00]	139.00[138.00,141.00]	<0.001
	young	139.00[138.00,141.00]	139.00[138.00,141.00]	138.00[137.00,140.00]	
Potassium(mmol/L)	old	4.10[3.81,4.30]	4.10[3.80,4.30]	4.10[3.90,4.40]	<0.001
	young	4.00[3.80,4.20]	4.00[3.80,4.20]	4.00[3.80,4.20]	
Chloride(mmol/L)	old	103.00[101.00,105.00]	103.00[101.00,105.00]	102.00[100.00,105.00]	<0.001
	young	104.00[102.00,105.00]	104.00[102.00,105.00]	102.00[100.00,104.00]	
Transferrin Saturation (%)	old	26.10[20.10,33.00]	25.00[19.50,31.00]	24.00[17.80,29.00]	<0.001
	young	24.20[17.70,32.70]	22.80[16.29,29.00]	22.02[16.26,29.00]	
Globulin (g/L)	old	28.00[25.00,31.00]	29.00[26.00,32.00]	29.00[26.00,32.00]	<0.001
	young	28.00[26.00,31.00]	29.00[27.00,32.01]	30.00[27.00,33.00]	
alpha-carotene(umol/L)	old	0.07[0.04,0.12]	0.06[0.03,0.11]	0.05[0.02,0.08]	<0.001
	young	0.05[0.03,0.10]	0.04[0.02,0.09]	0.04[0.02,0.07]	
trans-beta-carotene(umol/L)	old	0.34[0.19,0.57]	0.29[0.17,0.51]	0.22[0.12,0.40]	<0.001
	young	0.21[0.13,0.38]	0.19[0.11,0.34]	0.15[0.08,0.26]	
cis-beta-carotene(umol/L)	old	0.02[0.01,0.04]	0.02[0.01,0.03]	0.01[0.01,0.02]	<0.001
	young	0.01[0.01,0.02]	0.01[0.01,0.02]	0.01[0.01,0.02]	
beta-cryptoxanthin(umol/L)	old	0.14[0.08,0.22]	0.12[0.07,0.20]	0.10[0.06,0.16]	<0.001
	young	0.13[0.09,0.20]	0.12[0.07,0.20]	0.10[0.07,0.18]	
Lutein and zeaxanthin(umol/L)	old	0.29[0.20,0.41]	0.29[0.21,0.41]	0.26[0.18,0.37]	<0.001
	young	0.25[0.18,0.35]	0.25[0.18,0.35]	0.25[0.18,0.36]	
trans-lycopene(umol/L)	old	0.34[0.22,0.48]	0.33[0.22,0.48]	0.30[0.19,0.43]	<0.001
	young	0.43[0.31,0.56]	0.42[0.29,0.58]	0.38[0.28,0.53]	
VitaminD(nmol/L)	old	63.50[49.50,75.40]	58.81[46.80,73.00]	55.70[42.20,68.90]	<0.001
	young	62.47[48.30,77.70]	51.90[38.50,65.80]	51.90[39.70,66.50]	
Creatine Phosphokinase (CPK) (IU/L)	old	95.00[65.00,133.00]	100.00[71.00,155.34]	95.00[65.00,144.12]	<0.001

	young	107.00[75.00,166.00]	125.00[84.00,200.00]	106.00[70.00,172.60]	
Direct HDL-Cholesterol(mmol/L)	old	1.47[1.21,1.84]	1.37[1.14,1.68]	1.19[1.01,1.45]	<0.001
	young	1.34[1.11,1.63]	1.22[1.01,1.47]	1.14[0.96,1.34]	
Direct HDL-Cholesterol (mg/dL)	old	56.00[46.00,70.00]	52.00[43.00,64.00]	46.00[38.00,56.00]	<0.001
	young	51.00[42.00,62.00]	47.00[39.00,56.00]	43.00[37.00,52.00]	
Total Cholesterol(mmol/L)	old	5.25[4.60,5.95]	5.12[4.45,5.84]	4.50[3.85,5.33]	<0.001
	young	4.89[4.24,5.61]	5.25[4.58,5.95]	5.02[4.24,5.82]	
Cholesterol, total (mmol/L)	old	5.25[4.58,5.97]	5.12[4.42,5.87]	4.47[3.83,5.30]	<0.001
	young	4.89[4.27,5.61]	5.25[4.58,5.92]	4.99[4.24,5.79]	
Triglyceride (mg/dL)	old	105.00[75.00,149.00]	116.00[84.00,166.00]	134.00[94.43,192.47]	<0.001
	young	105.00[75.00,149.00]	116.00[84.00,166.00]	134.00[94.43,192.47]	
Triglyceride (mmol/L)	old	1.19[0.85,1.68]	1.31[0.95,1.87]	1.51[1.07,2.18]	<0.001
	young	1.07[0.74,1.59]	1.32[0.91,1.94]	1.69[1.12,2.45]	
LDL-cholesterol(mmol/L)	old	3.05[2.48,3.65]	2.92[2.34,3.57]	2.33[1.84,3.08]	<0.001
	young	2.87[2.33,3.47]	3.18[2.61,3.83]	2.82[2.25,3.52]	
Glycohemoglobin(%)	old	5.40[5.20,5.50]	5.90[5.70,6.00]	6.80[6.40,7.60]	<0.001
	young	5.20[5.00,5.40]	5.80[5.70,6.00]	7.10[6.50,8.70]	
Glucose, serum (mmol/L)	old	5.11[4.83,5.50]	5.44[5.05,6.00]	7.11[5.88,9.33]	<0.001
	young	4.88[4.55,5.22]	5.33[4.88,5.77]	7.77[5.88,11.30]	
Glucose, plasma (mg/dL)	old	99.00[93.00,106.10]	107.00[100.00,116.00]	137.94[120.00,169.00]	<0.001
	young	95.00[89.00,101.00]	104.00[97.00,111.40]	149.49[119.00,206.03]	
Plasma glucose: SI(mmol/L)	old	5.50[5.16,5.89]	5.94[5.55,6.44]	7.66[6.66,9.38]	<0.001
	young	5.27[4.94,5.61]	5.77[5.38,6.18]	8.30[6.61,11.44]	
C-peptide:SI(nmol/L)	old	0.74[0.57,1.00]	1.00[0.76,1.34]	1.07[0.81,1.36]	<0.001
	young	0.65[0.49,0.87]	0.95[0.73,1.27]	1.05[0.76,1.46]	

Insulin(uU/mL)	old	8.08[5.40,12.28]	10.69[6.59,17.30]	12.79[8.27,21.55]	<0.001
	young	8.26[5.49,12.85]	13.01[7.83,19.65]	15.40[9.06,25.55]	
Insulin:SI(pmol/L)	old	52.86[39.96,72.80]	77.63[51.89,112.91]	103.42[63.90,156.68]	<0.001
	young	53.34[38.45,75.38]	86.22[56.59,120.00]	115.86[63.82,159.45]	
Two Hour Glucose(OGTT)(mg/dL)	old	115.00[94.00,141.00]	137.00[110.00,175.92]	261.75[200.00,308.00]	<0.001
	young	97.00[81.00,117.00]	118.00[95.00,146.00]	272.88[197.49,352.00]	

Old: age ≥ 60 , young: age < 60 .

Supplementary Table SVII. Ethnicity subgroup comparison of laboratory characteristics between different disease groups

Terms	Ethnicity	Normal	Prediabetes	T2D	p	Normal	MCI	p
White blood cell count(1000 cells/uL)	Mexican American	7.20[6.10,8.60]	7.40[6.30,8.90]	7.60[6.50,8.90]	<0.001	7.14[6.10,8.80]	7.03[5.80,8.10]	<0.001
	Other Hispanic	7.10[6.00,8.40]	7.40[6.20,8.70]	7.70[6.40,9.00]		6.88[5.80,7.93]	6.98[5.70,8.20]	
	Non-Hispanic White	6.90[5.70,8.30]	7.40[6.10,8.80]	7.80[6.40,9.30]		7.10[6.10,8.23]	6.70[5.70,8.00]	
	Non-Hispanic Black	6.10[4.90,7.60]	6.40[5.10,7.90]	6.80[5.60,8.40]		6.10[4.90,7.30]	6.10[4.90,7.40]	
	Other Race - Including Multi-Racial	6.80[5.60,8.20]	6.90[5.90,8.60]	7.50[6.10,8.90]		6.90[5.83,7.88]	6.60[5.60,8.00]	
Lymphocyte percent(%)	Mexican American	30.40[25.50,35.40]	30.52[26.40,35.80]	29.80[24.60,35.10]	<0.001	29.10[22.70,34.60]	29.40[25.00,33.61]	<0.001
	Other Hispanic	29.90[25.40,35.17]	31.30[26.15,35.99]	29.20[23.80,35.13]		30.77[24.84,36.22]	29.80[24.41,35.51]	
	Non-Hispanic White	29.20[24.30,34.20]	28.70[23.60,33.70]	26.70[21.80,32.10]		24.80[20.00,29.64]	27.30[22.50,32.70]	
	Non-Hispanic Black	34.50[27.90,41.30]	34.72[28.60,41.70]	32.60[26.50,39.70]		31.30[25.20,38.45]	33.80[27.43,40.20]	
	Other Race - Including Multi-Racial	30.70[25.50,36.66]	32.30[26.50,37.20]	29.80[24.71,35.20]		28.83[23.09,35.13]	30.49[23.96,35.40]	
Segmented neutrophils percent(%)	Mexican American	58.80[53.30,64.60]	58.40[52.70,63.30]	59.69[53.70,65.10]	<0.001	59.78[53.70,66.20]	59.63[53.80,64.40]	<0.001
	Other Hispanic	58.40[52.80,64.20]	56.85[51.75,63.00]	59.10[53.17,65.58]		56.62[52.10,62.70]	59.06[52.32,64.10]	
	Non-Hispanic White	59.30[53.40,64.70]	59.50[53.60,65.00]	61.60[55.60,67.00]		63.20[57.60,68.00]	60.50[54.30,65.86]	
	Non-Hispanic Black	53.50[46.00,61.30]	53.00[45.60,60.30]	56.00[48.70,62.70]		55.20[48.07,62.80]	53.90[47.00,61.30]	
	Other Race - Including Multi-Racial	57.80[51.80,63.90]	56.44[50.90,61.70]	58.99[52.73,64.40]		60.00[51.10,63.84]	57.00[51.81,65.60]	
Eosinophils percent(%)	Mexican American	2.00[1.30,3.20]	2.30[1.60,3.40]	2.40[1.50,3.30]	<0.001	2.50[1.70,3.50]	2.50[1.60,3.50]	0.085
	Other Hispanic	2.20[1.40,3.50]	2.30[1.60,3.80]	2.50[1.70,3.80]		2.80[1.90,4.16]	2.30[1.60,3.70]	
	Non-Hispanic White	2.30[1.50,3.40]	2.50[1.70,3.70]	2.50[1.70,3.70]		2.50[1.60,3.50]	2.50[1.70,3.80]	
	Non-Hispanic Black	2.20[1.30,3.40]	2.30[1.50,3.60]	2.20[1.40,3.30]		2.60[1.50,3.78]	2.30[1.60,3.70]	
	Other Race - Including Multi-Racial	2.30[1.50,3.70]	2.60[1.70,4.10]	2.50[1.70,3.70]		2.64[1.47,5.02]	2.40[1.60,3.59]	
Basophils percent(%)	Mexican American	0.60[0.40,0.80]	0.60[0.40,0.90]	0.60[0.40,0.90]	<0.001	0.60[0.40,0.90]	0.60[0.45,0.90]	<0.001
	Other Hispanic	0.60[0.40,0.80]	0.70[0.50,0.90]	0.60[0.42,0.90]		0.60[0.40,0.90]	0.60[0.40,0.80]	
	Non-Hispanic White	0.60[0.40,0.90]	0.70[0.50,0.90]	0.70[0.50,0.90]		0.60[0.40,0.80]	0.70[0.40,0.90]	

	Non-Hispanic Black	0.60[0.40,0.90]	0.70[0.40,0.90]	0.60[0.40,0.90]		0.60[0.40,0.90]	0.60[0.40,0.90]	
	Other Race - Including Multi-Racial	0.60[0.40,0.90]	0.70[0.50,0.90]	0.70[0.50,0.90]		0.60[0.40,0.88]	0.70[0.40,0.90]	
	Mexican American	2.10[1.80,2.60]	2.30[1.90,2.70]	2.20[1.80,2.70]		2.00[1.60,2.50]	2.00[1.70,2.40]	
	Other Hispanic	2.10[1.80,2.50]	2.30[1.80,2.70]	2.20[1.80,2.80]		2.06[1.70,2.50]	2.06[1.60,2.40]	
Lymphocyte number(1000 cells/uL)	Non-Hispanic White	2.00[1.60,2.40]	2.10[1.70,2.50]	2.00[1.60,2.60]	<0.001	1.70[1.30,2.20]	1.80[1.40,2.20]	<0.001
	Non-Hispanic Black	2.10[1.70,2.50]	2.20[1.70,2.80]	2.20[1.70,2.80]		1.90[1.50,2.40]	2.00[1.60,2.50]	
	Other Race - Including Multi-Racial	2.10[1.70,2.50]	2.25[1.80,2.70]	2.20[1.70,2.70]		1.95[1.42,2.60]	1.90[1.50,2.47]	
	Mexican American	0.50[0.40,0.60]	0.60[0.50,0.70]	0.50[0.40,0.60]		0.50[0.50,0.60]	0.50[0.40,0.70]	
	Other Hispanic	0.50[0.40,0.70]	0.50[0.40,0.70]	0.60[0.50,0.70]		0.50[0.40,0.70]	0.50[0.40,0.70]	
Monocyte number(1000cells/uL)	Non-Hispanic White	0.50[0.40,0.70]	0.60[0.50,0.70]	0.60[0.50,0.70]	<0.001	0.60[0.50,0.70]	0.60[0.44,0.70]	<0.001
	Non-Hispanic Black	0.50[0.40,0.60]	0.50[0.40,0.60]	0.50[0.40,0.60]		0.50[0.40,0.60]	0.50[0.40,0.60]	
	Other Race - Including Multi-Racial	0.50[0.40,0.60]	0.50[0.40,0.60]	0.50[0.40,0.70]		0.50[0.40,0.60]	0.50[0.40,0.60]	
	Mexican American	4.20[3.30,5.30]	4.30[3.40,5.40]	4.50[3.70,5.50]		4.30[3.50,5.30]	4.10[3.40,5.00]	
	Other Hispanic	4.10[3.30,5.20]	4.20[3.30,5.20]	4.50[3.50,5.60]		4.00[3.02,4.84]	4.10[3.30,4.70]	
Segmented neutrophils num(1000 cells/uL)	Non-Hispanic White	4.00[3.20,5.10]	4.30[3.40,5.40]	4.70[3.80,5.80]	<0.001	4.50[3.63,5.40]	4.00[3.20,5.00]	<0.001
	Non-Hispanic Black	3.20[2.40,4.40]	3.30[2.40,4.50]	3.70[2.83,4.90]		3.30[2.40,4.40]	3.30[2.40,4.30]	
	Other Race - Including Multi-Racial	3.90[3.00,4.90]	3.90[3.10,5.10]	4.20[3.40,5.50]		3.80[3.08,4.83]	3.70[2.90,4.70]	
	Mexican American	0.10[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]		0.20[0.10,0.30]	0.20[0.10,0.20]	
	Other Hispanic	0.20[0.10,0.30]	0.20[0.10,0.30]	0.20[0.10,0.30]		0.20[0.10,0.30]	0.20[0.10,0.30]	
Eosinophils number(1000 cells/uL)	Non-Hispanic White	0.20[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]	<0.001	0.20[0.10,0.30]	0.20[0.10,0.30]	0.001
	Non-Hispanic Black	0.10[0.10,0.20]	0.13[0.10,0.20]	0.20[0.10,0.20]		0.20[0.10,0.20]	0.10[0.10,0.20]	
	Other Race - Including Multi-Racial	0.20[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]		0.20[0.10,0.21]	0.20[0.10,0.30]	
	Mexican American	0.00[0.00,0.10]	0.00[0.00,0.10]	0.00[0.00,0.10]		0.00[0.00,0.10]	0.00[0.00,0.10]	
	Other Hispanic	0.00[0.00,0.10]	0.00[0.00,0.10]	0.00[0.00,0.10]	<0.001	0.00[0.00,0.10]	0.00[0.00,0.10]	0.002
Basophils number(1000 cells/uL)	Non-Hispanic White	0.00[0.00,0.10]	0.10[0.00,0.10]	0.10[0.00,0.10]		0.00[0.00,0.10]	0.00[0.00,0.10]	

	Non-Hispanic Black	0.00[0.00,0.10]	0.00[0.00,0.10]	0.00[0.00,0.10]		0.00[0.00,0.10]	0.00[0.00,0.10]	
	Other Race - Including Multi-Racial	0.00[0.00,0.10]	0.00[0.00,0.10]	0.00[0.00,0.10]		0.00[0.00,0.10]	0.00[0.00,0.10]	
Red blood cell count(millioncells/uL)	Mexican American	4.79[4.43,5.14]	4.85[4.50,5.17]	4.70[4.39,5.07]		4.56[4.19,4.92]	4.57[4.28,4.90]	
	Other Hispanic	4.68[4.38,5.07]	4.76[4.48,5.09]	4.73[4.42,5.09]		4.53[4.22,4.92]	4.62[4.37,4.93]	
	Non-Hispanic White	4.70[4.39,5.04]	4.68[4.38,5.00]	4.72[4.37,5.02]	<0.001	4.51[4.11,4.86]	4.55[4.28,4.84]	0.005
	Non-Hispanic Black	4.59[4.23,4.97]	4.74[4.39,5.08]	4.60[4.26,4.99]		4.43[4.11,4.80]	4.50[4.18,4.88]	
	Other Race - Including Multi-Racial	4.74[4.40,5.09]	4.77[4.44,5.09]	4.74[4.32,5.10]		4.50[4.19,4.82]	4.52[4.20,4.84]	
Hemoglobin (g/dL)	Mexican American	14.60[13.40,15.70]	14.50[13.40,15.40]	14.20[13.10,15.30]		14.10[12.90,15.00]	14.20[13.30,15.20]	
	Other Hispanic	14.20[13.30,15.30]	14.10[13.10,15.10]	14.10[13.00,15.20]		13.80[12.76,14.70]	14.10[13.30,15.00]	
	Non-Hispanic White	14.50[13.60,15.50]	14.30[13.50,15.20]	14.40[13.30,15.20]	<0.001	14.00[12.90,15.10]	14.20[13.40,15.00]	<0.001
	Non-Hispanic Black	13.50[12.50,14.70]	13.60[12.60,14.60]	13.20[12.20,14.30]		12.80[12.00,13.93]	13.30[12.50,14.10]	
	Other Race - Including Multi-Racial	14.30[13.20,15.40]	14.10[13.20,15.10]	14.10[12.90,15.30]		13.60[12.68,14.30]	13.90[13.10,14.90]	
Hematocrit (%)	Mexican American	42.80[39.10,46.10]	42.80[39.40,45.30]	41.80[38.49,45.20]		41.80[38.35,44.60]	41.60[38.80,44.90]	
	Other Hispanic	41.80[38.80,45.20]	42.05[38.80,44.90]	41.80[38.10,44.40]		40.67[37.80,43.60]	41.69[39.78,44.23]	
	Non-Hispanic White	42.60[39.70,45.40]	42.20[39.50,45.10]	42.10[38.90,44.70]	<0.001	41.60[38.02,44.88]	41.70[39.20,44.30]	<0.001
	Non-Hispanic Black	40.39[37.10,43.98]	40.90[37.80,43.90]	39.50[36.60,42.50]		39.80[36.50,42.79]	39.80[37.40,42.40]	
	Other Race - Including Multi-Racial	42.20[38.80,45.40]	41.80[38.67,44.99]	41.69[37.63,44.90]		40.59[38.87,42.65]	41.55[37.23,43.97]	
Mean cell volume(fL)	Mexican American	89.40[86.60,92.00]	88.30[84.80,91.10]	88.90[86.10,91.90]		91.00[87.90,94.10]	91.59[88.70,94.60]	
	Other Hispanic	89.30[86.20,92.40]	88.10[84.60,91.40]	88.10[85.50,91.40]		90.40[86.90,93.66]	90.60[87.10,92.80]	
	Non-Hispanic White	90.60[87.80,93.30]	90.50[87.40,93.20]	89.60[86.60,92.64]	<0.001	92.60[88.90,95.50]	91.90[89.10,94.60]	<0.001
	Non-Hispanic Black	88.80[84.50,92.50]	86.70[82.70,90.60]	86.90[82.46,90.60]		88.90[84.40,92.60]	88.86[84.40,92.60]	
	Other Race - Including Multi-Racial	89.40[86.40,92.40]	88.90[84.80,91.60]	88.70[84.60,91.90]		90.70[87.72,93.11]	91.40[87.96,94.60]	
Mean cell hemoglobin(pg)	Mexican American	30.50[29.40,31.50]	29.90[28.60,31.10]	30.30[29.00,31.30]		30.90[29.80,32.00]	31.20[30.10,32.50]	
	Other Hispanic	30.40[29.20,31.50]	29.80[28.40,31.00]	29.90[28.70,31.20]	<0.001	30.60[29.20,31.70]	30.70[29.58,31.70]	<0.001
	Non-Hispanic White	30.90[29.90,32.00]	30.70[29.60,31.80]	30.50[29.30,31.60]		31.20[29.83,32.59]	31.30[30.20,32.30]	

	Non-Hispanic Black	29.80[28.00,31.30]	28.90[27.20,30.40]	29.00[27.19,30.30]		29.50[27.70,30.90]	29.80[28.00,31.20]	
	Other Race - Including Multi-Racial	30.40[29.10,31.50]	30.10[28.50,31.18]	29.90[28.60,31.30]		30.42[29.51,31.50]	31.10[29.78,32.30]	
	Mexican American	34.00[33.50,34.70]	33.80[33.20,34.40]	33.90[33.30,34.50]		33.90[33.30,34.50]	34.10[33.60,34.60]	
	Other Hispanic	34.00[33.40,34.50]	33.70[33.20,34.20]	33.80[33.30,34.50]		33.80[33.20,34.30]	33.82[33.40,34.37]	
Mean Cell Hgb Conc.(g/dL)	Non-Hispanic White	34.10[33.60,34.70]	33.90[33.40,34.50]	33.90[33.30,34.50]	<0.001	33.80[33.30,34.34]	34.00[33.50,34.60]	<0.001
	Non-Hispanic Black	33.40[32.80,34.00]	33.30[32.60,33.80]	33.20[32.50,33.80]		33.00[32.50,33.70]	33.40[32.80,34.00]	
	Other Race - Including Multi-Racial	33.90[33.30,34.50]	33.65[33.00,34.30]	33.80[33.10,34.30]		33.60[33.10,34.13]	34.00[33.30,34.60]	
	Mexican American	12.70[12.20,13.30]	13.10[12.50,13.80]	13.00[12.40,13.80]		13.10[12.50,13.80]	13.10[12.44,13.60]	
	Other Hispanic	12.70[12.30,13.40]	13.28[12.60,13.90]	13.10[12.50,13.80]		13.10[12.60,13.80]	13.00[12.50,13.70]	
Red cell distribution width(%)	Non-Hispanic White	12.60[12.10,13.10]	13.10[12.50,13.70]	13.20[12.50,13.90]	<0.001	13.10[12.50,13.90]	12.90[12.40,13.60]	<0.001
	Non-Hispanic Black	13.05[12.40,13.90]	13.70[13.00,14.50]	13.80[13.00,14.70]		13.70[13.00,14.58]	13.70[12.90,14.40]	
	Other Race - Including Multi-Racial	12.70[12.20,13.40]	13.10[12.50,13.90]	13.10[12.50,13.90]		13.00[12.55,13.70]	12.93[12.40,13.79]	
	Mexican American	253.00[217.00,296.00]	254.00[214.00,300.59]	240.00[202.00,285.67]		239.00[204.90,275.53]	232.00[201.00,271.00]	
	Other Hispanic	254.00[215.00,297.82]	253.00[216.90,296.00]	255.00[214.00,311.00]		243.00[191.05,289.72]	239.00[201.36,276.88]	
Platelet count(1000cells/uL)	Non-Hispanic White	245.00[210.00,287.00]	249.00[210.00,294.00]	234.00[195.00,285.23]	<0.001	229.00[187.00,284.00]	231.00[195.00,273.00]	0.374
	Non-Hispanic Black	250.00[210.00,295.00]	247.00[209.00,296.00]	252.00[210.00,305.67]		226.77[192.00,266.00]	231.00[194.00,276.00]	
	Other Race - Including Multi-Racial	245.00[211.00,289.00]	249.00[210.00,296.62]	241.41[202.82,292.00]		207.00[195.00,261.77]	226.00[192.00,253.38]	
	Mexican American	8.20[7.70,8.80]	8.20[7.60,8.90]	8.40[7.80,9.00]		8.50[7.90,9.10]	8.30[7.90,9.00]	
	Other Hispanic	8.20[7.60,8.90]	8.20[7.70,8.80]	8.40[7.90,9.00]		8.40[7.80,9.10]	8.60[8.10,9.10]	
Mean platelet volume(fL)	Non-Hispanic White	8.10[7.50,8.60]	8.10[7.50,8.70]	8.20[7.60,8.80]	<0.001	8.17[7.60,8.80]	8.20[7.60,8.90]	<0.001
	Non-Hispanic Black	8.20[7.60,8.90]	8.20[7.60,8.90]	8.30[7.80,9.00]		8.60[8.00,9.10]	8.40[7.80,9.07]	
	Other Race - Including Multi-Racial	8.00[7.50,8.60]	8.00[7.40,8.60]	8.00[7.50,8.60]		8.60[7.50,9.29]	8.20[7.60,8.77]	
	Mexican American	772.40[545.90,1052.46]	873.67[657.00,1130.00]	974.00[703.13,1260.00]		882.66[639.85,1230.00]	983.07[714.42,1240.00]	
Folate, RBC (nmol/L RBC)	Other Hispanic	779.00[564.00,1040.00]	882.87[631.90,1162.38]	934.68[695.99,1270.00]	<0.001	894.77[585.80,1110.00]	913.00[682.77,1260.00]	<0.001
	Non-Hispanic White	869.80[620.60,1220.00]	1050.00[736.10,1480.00]	1120.00[788.20,1600.00]		922.94[616.09,1349.88]	1080.29[783.70,1560.00]	

	Non-Hispanic Black	638.70[459.80,914.00]	728.35[528.80,1020.00]	840.00[594.25,1209.73]		728.36[534.26,1071.35]	879.40[629.33,1300.00]	
	Other Race - Including Multi-Racial	815.00[584.19,1110.00]	920.00[627.32,1271.41]	1000.00[704.27,1437.15]		797.30[542.74,1052.26]	1021.85[769.75,1490.00]	
Folate, serum(nmol/L)	Mexican American	25.60[18.60,35.60]	27.90[20.24,38.40]	30.40[22.35,41.74]		34.80[23.10,43.31]	34.00[25.40,43.13]	
	Other Hispanic	27.99[20.60,37.80]	29.90[20.56,41.00]	29.69[24.13,40.30]		29.94[24.50,40.01]	31.97[22.75,42.85]	
	Non-Hispanic White	31.40[22.00,44.40]	36.97[23.80,56.20]	36.04[24.76,55.52]	<0.001	37.42[24.37,56.22]	41.40[28.10,58.21]	<0.001
	Non-Hispanic Black	23.31[16.55,32.40]	24.50[17.90,35.60]	27.40[19.60,40.77]		25.63[17.07,38.95]	29.33[21.67,42.26]	
	Other Race - Including Multi-Racial	27.56[19.38,38.40]	29.14[22.20,43.66]	39.60[25.10,59.53]		29.40[18.40,46.08]	37.71[30.70,48.49]	
Vitamin B12(pmol/L)	Mexican American	357.20[278.96,470.10]	370.17[284.13,466.33]	378.59[288.70,512.42]		384.63[278.80,586.27]	374.42[266.40,493.69]	
	Other Hispanic	347.40[259.80,451.67]	323.07[255.82,474.81]	369.86[280.98,476.73]		335.64[228.96,471.43]	344.43[265.76,504.70]	
	Non-Hispanic White	340.96[259.04,452.40]	358.19[262.73,479.78]	343.91[261.26,496.91]	<0.001	353.57[244.28,511.96]	374.90[275.30,520.64]	<0.001
	Non-Hispanic Black	357.20[278.96,470.10]	370.17[284.13,466.33]	378.59[288.70,512.42]		399.28[285.89,557.51]	423.60[304.29,614.86]	
	Other Race - Including Multi-Racial	366.05[270.10,485.60]	377.12[263.11,492.06]	398.40[267.41,532.90]		487.56[321.42,618.92]	440.57[276.80,621.36]	
Homocysteine(umol/L)	Mexican American	6.81[5.70,8.21]	7.36[6.12,8.75]	7.54[6.17,9.52]		9.11[7.20,11.22]	8.79[7.08,10.99]	
	Other Hispanic	6.97[5.92,8.66]	8.04[6.48,10.30]	8.35[6.71,9.90]		9.42[7.79,11.47]	9.04[7.79,10.62]	
	Non-Hispanic White	7.88[6.51,9.51]	8.80[7.31,10.80]	8.99[7.31,11.18]	<0.001	10.75[8.04,14.16]	9.08[7.52,11.10]	<0.001
	Non-Hispanic Black	7.64[6.27,9.31]	8.26[6.84,9.98]	8.87[6.95,11.42]		10.70[8.20,13.77]	9.08[7.51,11.19]	
	Other Race - Including Multi-Racial	7.26[6.01,8.84]	7.90[6.59,9.93]	8.05[6.05,10.23]		8.27[6.40,11.00]	7.99[6.90,10.51]	
Blood mercury, total(nmol/L)	Mexican American	3.49[2.00,5.99]	3.39[1.90,5.80]	2.99[1.70,5.40]		1.83[0.85,3.52]	2.29[1.29,4.60]	
	Other Hispanic	5.20[2.81,9.80]	4.99[3.00,8.50]	4.80[2.50,9.42]		6.50[3.34,9.09]	6.92[3.64,12.57]	
	Non-Hispanic White	4.40[2.20,8.98]	4.54[2.30,8.70]	3.74[2.00,7.10]	<0.001	2.50[1.14,4.50]	5.00[2.70,10.42]	<0.001
	Non-Hispanic Black	4.50[2.50,8.38]	4.90[2.70,9.20]	5.19[2.90,9.20]		3.60[2.05,7.30]	4.77[2.62,8.41]	
	Other Race - Including Multi-Racial	7.56[2.99,17.35]	8.63[2.84,21.11]	6.56[2.47,16.70]		15.60[5.78,24.59]	6.52[3.23,18.02]	
Mercury, inorganic(nmol/L)	Mexican American	1.25[1.25,1.50]	1.25[0.95,1.40]	1.25[0.95,1.50]		0.95[0.95,0.95]	0.95[0.95,0.95]	
	Other Hispanic	1.25[0.95,1.50]	1.25[0.95,1.50]	1.25[0.95,1.50]	<0.001	0.95[0.95,2.00]	0.95[0.95,1.60]	0.047
	Non-Hispanic White	1.25[1.25,1.50]	1.25[0.95,1.50]	1.25[0.95,1.50]		0.95[0.95,0.95]	0.95[0.95,1.75]	

	Non-Hispanic Black	1.25[1.25,1.50]	1.25[0.95,1.50]	1.25[0.95,1.50]		0.95[0.95,0.95]	0.95[0.95,1.50]	
	Other Race - Including Multi-Racial	1.25[0.95,1.50]	1.25[0.95,1.60]	1.25[0.95,1.50]		1.18[0.95,2.34]	0.95[0.95,1.61]	
	Mexican American	63.94[57.46,71.60]	63.55[55.85,69.12]	61.78[56.92,70.10]		63.19[56.92,69.63]	63.66[57.26,69.87]	
	Other Hispanic	62.50[55.89,70.88]	60.54[55.85,68.31]	63.11[55.70,70.29]		60.49[57.27,65.38]	63.64[54.30,68.94]	
Tot Iron Binding Capacity TIBC(umol/L)	Non-Hispanic White	62.65[56.24,69.99]	61.34[55.99,67.84]	61.76[55.40,68.56]	<0.001	63.82[56.21,71.85]	64.08[57.46,70.71]	<0.001
	Non-Hispanic Black	61.38[54.80,69.81]	59.25[52.66,65.34]	58.49[51.91,64.98]		59.99[52.65,65.24]	58.89[52.98,65.69]	
	Other Race - Including Multi-Racial	62.47[56.06,68.75]	60.54[54.09,67.85]	62.29[55.39,69.09]		60.58[52.92,62.74]	61.39[56.21,69.38]	
	Mexican American	52.00[24.00,114.00]	84.22[28.00,186.00]	90.27[37.96,197.28]		92.41[53.00,169.10]	110.51[69.00,186.33]	
	Other Hispanic	54.14[27.00,109.00]	92.26[40.78,164.63]	96.34[39.86,214.78]		91.11[49.51,140.37]	80.37[54.56,169.00]	
Ferritin(ug/L)	Non-Hispanic White	68.00[33.00,132.00]	93.20[48.48,169.00]	112.13[57.00,212.96]	<0.001	104.00[54.00,193.21]	101.00[54.00,182.00]	0.011
	Non-Hispanic Black	58.00[23.00,131.00]	86.07[36.00,164.00]	110.84[48.08,226.00]		151.00[81.85,237.40]	133.00[76.32,227.57]	
	Other Race - Including Multi-Racial	66.00[31.00,145.00]	95.36[38.00,177.90]	105.85[51.74,267.93]		155.36[103.32,235.39]	123.96[68.94,276.12]	
	Mexican American	0.04[0.01,0.48]	0.03[0.01,0.23]	0.03[0.01,0.21]		0.04[0.01,0.35]	0.02[0.01,0.07]	
	Other Hispanic	0.04[0.01,1.80]	0.04[0.01,0.41]	0.03[0.01,0.18]		0.04[0.02,0.19]	0.04[0.01,0.42]	
Cotinine, Serum (ng/mL)	Non-Hispanic White	0.05[0.01,40.40]	0.04[0.01,57.63]	0.04[0.01,0.60]	<0.001	0.04[0.02,0.47]	0.03[0.01,0.09]	<0.001
	Non-Hispanic Black	0.37[0.04,110.00]	0.20[0.03,115.87]	0.10[0.03,25.88]		0.10[0.04,2.58]	0.06[0.02,1.50]	
	Other Race - Including Multi-Racial	0.05[0.02,4.90]	0.04[0.02,0.71]	0.04[0.02,0.60]		0.03[0.02,0.06]	0.04[0.02,0.22]	
	Mexican American	4.56[3.29,6.20]	5.24[3.54,7.33]	5.63[3.73,8.42]		5.23[3.50,7.43]	5.66[3.23,8.10]	
	Other Hispanic	4.22[3.00,5.65]	4.71[3.24,6.98]	4.64[3.41,6.17]		3.77[2.55,5.51]	3.76[2.09,4.73]	
gamma-tocopherol (umol/L)	Non-Hispanic White	4.59[2.93,6.53]	5.07[3.19,7.49]	5.38[3.39,8.11]	<0.001	4.46[2.69,7.18]	4.35[2.29,7.03]	<0.001
	Non-Hispanic Black	5.02[3.64,6.82]	5.38[3.72,7.35]	6.41[4.39,8.39]		7.62[4.35,10.11]	5.83[3.48,7.71]	
	Other Race - Including Multi-Racial	4.61[3.18,6.08]	4.40[3.05,6.34]	4.71[2.98,7.23]		3.88[2.76,4.12]	3.98[1.93,7.60]	
	Mexican American	0.04[0.03,0.07]	0.03[0.03,0.07]	0.04[0.03,0.08]		0.05[0.02,0.08]	0.06[0.03,0.09]	
	Other Hispanic	0.04[0.03,0.07]	0.04[0.03,0.07]	0.06[0.03,0.09]	<0.001	0.05[0.04,0.07]	0.04[0.03,0.07]	<0.001
Retinyl palmitate (umol/L)	Non-Hispanic White	0.05[0.03,0.09]	0.05[0.03,0.09]	0.06[0.03,0.10]		0.05[0.03,0.09]	0.07[0.04,0.11]	

	Non-Hispanic Black	0.05[0.03,0.08]	0.05[0.03,0.08]	0.05[0.03,0.09]		0.05[0.03,0.08]	0.07[0.04,0.11]	
	Other Race - Including Multi-Racial	0.04[0.03,0.07]	0.05[0.03,0.09]	0.05[0.03,0.10]		0.05[0.02,0.09]	0.08[0.05,0.12]	
Retinyl stearate (umol/L)	Mexican American	0.02[0.01,0.02]	0.02[0.01,0.02]	0.02[0.01,0.02]		0.01[0.01,0.01]	0.01[0.01,0.01]	
	Other Hispanic	0.01[0.01,0.02]	0.02[0.01,0.02]	0.02[0.01,0.02]		0.01[0.01,0.01]	0.01[0.01,0.01]	
	Non-Hispanic White	0.02[0.01,0.02]	0.02[0.01,0.02]	0.02[0.01,0.02]	<0.001	0.01[0.01,0.03]	0.01[0.01,0.02]	0.002
	Non-Hispanic Black	0.01[0.01,0.02]	0.02[0.01,0.02]	0.02[0.01,0.02]		0.01[0.01,0.01]	0.01[0.01,0.01]	
	Other Race - Including Multi-Racial	0.02[0.01,0.02]	0.02[0.02,0.02]	0.02[0.01,0.02]		0.01[0.01,0.01]	0.01[0.01,0.02]	
Retinol (umol/L)	Mexican American	1.76[1.47,2.11]	1.80[1.46,2.10]	1.81[1.46,2.12]		1.85[1.55,2.29]	2.07[1.72,2.48]	
	Other Hispanic	1.82[1.50,2.16]	1.86[1.57,2.26]	1.91[1.50,2.35]		1.97[1.68,2.31]	1.89[1.69,2.39]	
	Non-Hispanic White	2.06[1.72,2.46]	2.08[1.74,2.48]	2.16[1.76,2.59]	<0.001	2.21[1.79,2.59]	2.31[1.98,2.70]	<0.001
	Non-Hispanic Black	1.69[1.37,2.05]	1.78[1.42,2.18]	1.94[1.56,2.39]		2.10[1.68,2.63]	2.06[1.66,2.40]	
	Other Race - Including Multi-Racial	1.82[1.49,2.18]	1.95[1.63,2.24]	2.05[1.73,2.45]		2.25[1.62,2.69]	2.28[1.80,2.61]	
Albumin, urine(ug/mL)	Mexican American	7.50[4.20,13.80]	8.37[4.40,17.30]	15.20[6.30,52.84]		10.67[5.50,27.11]	8.00[4.00,19.20]	
	Other Hispanic	7.40[3.90,13.60]	8.09[4.10,17.10]	15.74[6.70,44.99]		12.97[5.80,28.28]	9.03[4.87,17.91]	
	Non-Hispanic White	6.30[3.30,11.80]	7.50[4.00,14.90]	12.00[5.30,31.00]	<0.001	16.80[6.40,43.16]	7.70[3.70,16.07]	<0.001
	Non-Hispanic Black	9.20[5.15,18.40]	9.55[5.30,19.50]	16.23[7.40,48.84]		17.20[7.60,53.32]	10.80[5.10,28.37]	
	Other Race - Including Multi-Racial	6.30[3.20,12.10]	6.79[3.50,12.90]	11.20[5.25,45.04]		9.60[4.01,24.79]	7.09[4.20,14.88]	
Albumin (g/L)	Mexican American	44.00[41.00,46.00]	42.00[40.00,44.00]	42.00[39.00,44.00]		42.00[40.00,45.00]	43.00[41.00,45.00]	
	Other Hispanic	43.00[41.00,46.00]	42.00[40.00,44.00]	42.00[39.00,44.00]		43.00[41.00,45.00]	42.00[40.98,44.00]	
	Non-Hispanic White	44.00[41.00,46.00]	42.00[40.00,44.00]	42.00[40.00,44.00]	<0.001	42.00[40.00,44.00]	43.00[41.00,44.00]	<0.001
	Non-Hispanic Black	42.00[40.00,45.00]	41.00[39.00,44.00]	41.00[38.00,43.00]		42.00[40.00,44.00]	42.00[39.15,43.00]	
	Other Race - Including Multi-Racial	44.00[41.00,46.00]	43.00[41.00,45.00]	42.00[40.00,44.00]		43.00[41.61,44.00]	43.00[41.00,45.00]	
Creatinine, urine(mg/dL)	Mexican American	122.00[72.00,177.00]	117.00[66.00,168.00]	97.00[60.00,146.00]		91.67[55.00,137.06]	95.00[53.12,130.44]	
	Other Hispanic	124.00[72.00,181.00]	110.83[63.00,169.13]	101.00[63.00,153.00]	<0.001	105.54[62.00,156.90]	101.00[68.50,144.66]	<0.001
	Non-Hispanic White	107.00[57.00,166.00]	100.00[56.00,153.00]	101.00[62.00,149.00]		94.00[53.17,140.00]	91.00[49.00,138.50]	

	Non-Hispanic Black	163.00[105.00,235.00]	152.00[98.00,218.08]	125.00[82.00,184.00]		125.00[83.06,192.47]	119.00[76.09,177.00]	
	Other Race - Including Multi-Racial	100.00[52.00,168.00]	86.51[49.00,144.00]	91.28[50.00,140.00]		79.58[40.40,99.88]	75.14[40.23,125.08]	
	Mexican American	65.42[54.81,79.56]	68.07[55.69,79.56]	64.53[53.04,79.56]		70.70[57.81,85.65]	70.72[59.23,83.10]	
	Other Hispanic	68.95[56.58,79.60]	70.72[60.11,83.10]	70.72[56.58,82.21]		70.72[61.89,88.40]	70.70[57.46,83.05]	
Creatinine(umol/L)	Non-Hispanic White	75.14[62.76,88.40]	77.79[66.30,88.40]	79.56[65.42,94.59]	<0.001	81.33[69.76,105.24]	79.56[64.53,92.82]	<0.001
	Non-Hispanic Black	77.79[63.65,90.17]	81.33[69.84,97.24]	81.33[67.18,100.78]		90.17[73.37,113.13]	82.21[70.71,100.22]	
	Other Race - Including Multi-Racial	70.72[58.34,82.21]	70.72[61.00,85.75]	71.82[59.92,89.28]		86.33[61.88,97.23]	73.37[61.88,88.40]	
	Mexican American	22.00[17.00,32.00]	26.00[19.00,39.00]	25.00[19.00,37.00]		19.00[16.00,26.00]	21.00[17.00,29.00]	
	Other Hispanic	21.00[16.00,30.00]	24.00[18.00,33.00]	24.00[18.00,33.00]		20.00[16.00,24.00]	20.00[17.00,25.54]	
Alanine Aminotransferase (ALT) (U/L)	Non-Hispanic White	21.00[16.00,28.00]	22.00[17.00,29.00]	23.00[18.00,31.00]	<0.001	18.00[15.00,23.00]	20.00[17.00,25.00]	<0.001
	Non-Hispanic Black	18.00[14.00,24.00]	20.00[15.00,27.00]	19.00[15.00,26.00]		18.00[14.00,24.00]	19.00[15.00,24.00]	
	Other Race - Including Multi-Racial	19.00[15.00,27.00]	22.00[17.00,31.00]	23.00[17.31,33.00]		16.70[14.65,25.00]	21.16[17.00,26.00]	
	Mexican American	23.00[19.00,28.00]	25.00[21.00,31.00]	23.00[19.00,30.00]		22.00[19.00,27.00]	23.00[19.00,28.00]	
	Other Hispanic	22.00[18.00,27.00]	24.00[20.00,29.00]	23.00[19.00,29.00]		22.00[19.00,25.32]	22.00[19.00,27.00]	
Aspartate Aminotransferase (AST) (U/L)	Non-Hispanic White	22.00[19.00,27.00]	23.00[20.00,27.00]	23.00[19.00,28.00]	<0.001	23.00[20.00,28.00]	23.00[20.00,27.00]	0.018
	Non-Hispanic Black	22.00[18.00,26.00]	22.00[19.00,28.00]	21.00[17.00,26.00]		22.00[19.00,27.00]	22.00[19.00,26.00]	
	Other Race - Including Multi-Racial	22.00[18.00,26.00]	23.00[19.00,27.00]	24.00[19.00,29.94]		25.00[20.00,27.00]	24.00[21.00,29.00]	
	Mexican American	72.00[59.00,86.00]	77.00[63.00,93.00]	79.00[64.00,98.00]		82.00[68.00,98.80]	70.00[59.00,88.00]	
	Other Hispanic	69.00[56.73,82.00]	76.00[63.00,89.00]	80.00[62.00,98.00]		78.07[66.00,92.00]	73.48[61.57,85.84]	
Alkaline Phosphatase (ALP) (U/L)	Non-Hispanic White	64.00[52.00,77.00]	69.00[57.00,83.00]	69.00[56.00,86.00]	<0.001	76.00[58.15,94.74]	66.00[54.00,80.00]	<0.001
	Non-Hispanic Black	64.00[52.00,79.00]	68.00[56.00,84.00]	74.00[60.00,91.00]		75.00[61.00,97.09]	71.00[58.00,86.27]	
	Other Race - Including Multi-Racial	62.00[51.00,77.00]	66.00[54.00,81.00]	68.00[54.00,87.00]		66.93[51.59,85.00]	66.00[52.57,84.00]	
	Mexican American	4.28[3.21,5.00]	4.64[3.57,5.71]	4.64[3.93,6.07]		5.40[4.28,6.80]	5.00[4.28,6.10]	
	Other Hispanic	4.28[3.57,5.36]	4.64[3.93,5.71]	4.64[3.93,6.07]	<0.001	5.37[4.60,6.43]	5.25[4.28,6.43]	<0.001
Blood urea nitrogen (mmol/L)	Non-Hispanic White	4.64[3.57,5.71]	5.36[4.28,6.43]	5.70[4.28,7.14]		6.07[4.60,7.50]	5.70[4.60,6.78]	

	Non-Hispanic Black	3.73[2.86,4.64]	4.28[3.21,5.36]	4.64[3.57,6.07]		5.40[4.30,7.50]	4.64[3.93,6.07]	
	Other Race - Including Multi-Racial	4.28[3.21,5.36]	4.64[3.93,5.71]	5.00[3.93,6.43]		5.67[4.28,7.13]	5.00[3.93,6.10]	
Total Calcium (mmol/L)	Mexican American	2.35[2.28,2.40]	2.33[2.28,2.38]	2.33[2.28,2.40]		2.33[2.28,2.38]	2.35[2.30,2.40]	
	Other Hispanic	2.35[2.30,2.40]	2.35[2.30,2.40]	2.35[2.30,2.42]		2.38[2.30,2.42]	2.35[2.28,2.41]	
	Non-Hispanic White	2.35[2.30,2.42]	2.35[2.30,2.40]	2.35[2.30,2.42]	<0.001	2.38[2.30,2.42]	2.35[2.30,2.42]	0.002
	Non-Hispanic Black	2.35[2.30,2.42]	2.35[2.30,2.42]	2.38[2.30,2.42]		2.38[2.30,2.45]	2.38[2.33,2.42]	
	Other Race - Including Multi-Racial	2.35[2.28,2.40]	2.35[2.28,2.40]	2.35[2.30,2.42]		2.35[2.27,2.42]	2.35[2.30,2.42]	
	Bicarbonate (mmol/L)	Mexican American	24.00[23.00,26.00]	25.00[23.00,26.00]	25.00[23.00,26.00]		25.00[23.00,26.00]	25.00[23.00,26.00]
Other Hispanic		25.00[23.00,26.00]	25.00[23.00,26.00]	25.00[23.00,27.00]		25.00[23.00,26.81]	24.00[23.00,26.00]	
Non-Hispanic White		25.00[23.00,26.00]	25.00[24.00,27.00]	25.00[23.00,26.00]	<0.001	25.00[23.00,26.00]	25.00[24.00,27.00]	<0.001
Non-Hispanic Black		25.00[23.00,26.00]	25.00[24.00,27.00]	25.00[23.00,27.00]		25.00[23.00,27.00]	26.00[24.00,27.00]	
Other Race - Including Multi-Racial		25.00[23.00,26.00]	25.00[24.00,27.00]	25.00[23.00,26.00]		25.00[24.00,26.27]	26.00[25.00,27.00]	
Gamma Glutamyl Transferase (GGT) (U/L)	Mexican American	20.00[14.00,31.00]	25.00[17.00,40.00]	27.00[19.00,42.00]		21.00[15.00,31.00]	21.00[16.00,32.00]	
	Other Hispanic	19.00[13.00,29.00]	25.00[17.00,37.00]	28.00[18.00,42.95]		22.00[15.00,34.02]	22.00[15.00,31.00]	
	Non-Hispanic White	18.00[13.00,27.00]	21.00[15.00,31.00]	24.00[17.00,39.00]	<0.001	19.00[14.00,32.00]	19.00[14.00,27.00]	<0.001
	Non-Hispanic Black	20.00[14.00,29.00]	24.00[17.00,35.00]	26.00[19.00,39.00]		23.00[17.00,35.66]	23.00[17.00,32.00]	
	Other Race - Including Multi-Racial	17.00[12.00,25.00]	22.00[16.00,31.00]	25.00[18.00,39.51]		21.61[16.00,32.00]	20.00[15.00,31.00]	
Iron (umol/L)	Mexican American	15.40[11.28,20.40]	14.10[10.40,18.63]	14.00[10.60,18.30]		13.80[10.78,17.90]	15.79[12.36,19.90]	
	Other Hispanic	14.90[10.93,19.50]	13.80[10.60,17.90]	13.49[10.68,18.09]		14.04[10.92,18.35]	13.95[10.57,18.30]	
	Non-Hispanic White	15.80[12.00,20.20]	14.50[11.10,18.30]	13.61[10.70,17.70]	<0.001	14.33[10.68,18.44]	15.22[11.82,19.00]	<0.001
	Non-Hispanic Black	13.40[9.70,17.60]	12.50[9.50,15.90]	11.60[9.13,14.90]		12.09[9.50,15.60]	12.54[9.90,15.80]	
	Other Race - Including Multi-Racial	15.80[12.00,20.10]	14.50[10.70,18.43]	14.15[10.90,17.71]		12.90[10.26,17.91]	14.69[11.50,18.42]	
Lactate Dehydrogenase (LDH) (U/L)	Mexican American	125.00[111.00,144.00]	133.00[116.97,150.00]	128.00[112.00,148.00]		138.00[119.00,155.00]	128.00[112.00,147.00]	
	Other Hispanic	126.00[111.00,144.00]	135.00[118.01,156.00]	130.00[114.00,152.00]	<0.001	135.00[121.00,158.00]	131.00[115.82,152.55]	<0.001
	Non-Hispanic White	127.00[112.00,144.00]	135.00[120.00,155.00]	133.00[117.00,154.00]		144.00[125.00,169.00]	134.00[119.00,152.00]	

	Non-Hispanic Black	131.00[114.00,151.00]	140.00[122.00,161.00]	141.00[121.99,162.00]		150.68[131.00,169.17]	141.00[123.00,160.82]	
	Other Race - Including Multi-Racial	123.00[110.00,142.00]	135.00[118.00,155.00]	133.00[115.75,157.00]		139.78[115.04,155.66]	131.00[115.00,150.00]	
Phosphorus (mmol/L)	Mexican American	1.20[1.07,1.32]	1.20[1.07,1.29]	1.20[1.07,1.32]	0.058	1.19[1.07,1.29]	1.19[1.07,1.29]	0.12
	Other Hispanic	1.20[1.10,1.29]	1.20[1.10,1.32]	1.20[1.10,1.32]		1.16[1.06,1.29]	1.20[1.03,1.31]	
	Non-Hispanic White	1.20[1.10,1.32]	1.20[1.10,1.32]	1.20[1.07,1.32]		1.13[1.03,1.26]	1.16[1.07,1.29]	
	Non-Hispanic Black	1.20[1.10,1.32]	1.20[1.07,1.29]	1.20[1.07,1.29]		1.14[1.07,1.29]	1.16[1.07,1.29]	
	Other Race - Including Multi-Racial	1.20[1.10,1.32]	1.20[1.07,1.32]	1.20[1.07,1.32]		1.26[1.13,1.31]	1.23[1.10,1.33]	
Bilirubin,total(umol/L)	Mexican American	10.26[8.55,13.68]	10.26[6.84,11.97]	10.26[6.84,13.68]	<0.001	10.26[8.55,11.97]	10.26[8.55,13.68]	<0.001
	Other Hispanic	10.26[6.84,13.68]	10.26[6.84,11.97]	10.26[6.84,11.97]		10.26[8.55,13.68]	10.26[8.55,11.98]	
	Non-Hispanic White	11.97[8.55,15.39]	10.26[8.55,13.68]	10.26[8.55,13.68]		10.30[8.57,13.68]	10.30[8.55,13.68]	
	Non-Hispanic Black	10.26[8.55,13.68]	10.26[6.84,11.97]	8.55[6.84,11.97]		10.26[6.84,11.97]	10.26[8.55,11.97]	
	Other Race - Including Multi-Racial	10.26[8.55,13.68]	10.26[6.84,11.97]	10.26[6.84,13.68]		10.26[8.55,13.68]	11.97[8.60,13.68]	
Protein,total(g/L)	Mexican American	73.00[70.00,76.00]	73.00[70.00,76.00]	73.00[70.00,76.00]	<0.001	74.00[70.00,77.00]	72.00[69.00,75.00]	<0.001
	Other Hispanic	73.00[70.00,76.00]	73.00[70.00,76.00]	73.00[70.00,76.00]		74.91[70.87,78.00]	73.00[70.00,76.00]	
	Non-Hispanic White	71.00[68.00,74.00]	70.00[68.00,73.00]	70.00[67.00,73.00]		72.00[68.00,76.00]	70.00[67.00,74.00]	
	Non-Hispanic Black	73.00[70.00,77.00]	73.00[70.00,76.00]	73.00[70.00,76.00]		74.00[71.00,78.00]	73.00[70.00,76.00]	
	Other Race - Including Multi-Racial	73.00[70.00,76.00]	72.00[69.00,75.00]	72.00[69.00,75.00]		76.00[73.32,79.00]	72.00[69.00,76.00]	
Uric acid(umol/L)	Mexican American	303.30[243.90,362.80]	327.10[267.70,380.70]	298.91[243.90,356.90]	<0.001	309.30[255.80,368.80]	309.30[261.70,362.80]	<0.001
	Other Hispanic	297.40[243.90,356.90]	327.10[273.60,380.70]	303.30[243.90,362.80]		309.30[262.28,362.80]	313.40[272.56,364.75]	
	Non-Hispanic White	309.30[255.80,368.80]	333.10[279.60,386.60]	333.10[273.60,398.50]		333.10[273.60,398.50]	327.10[273.60,386.60]	
	Non-Hispanic Black	297.40[243.90,356.90]	339.00[285.50,404.50]	339.00[279.60,410.40]		368.29[303.30,434.20]	350.90[291.50,410.40]	
	Other Race - Including Multi-Racial	309.30[255.80,368.80]	327.10[267.70,386.60]	321.20[273.60,392.60]		363.09[291.48,434.20]	322.35[261.70,392.60]	
Sodium(mmol/L)	Mexican American	139.00[138.00,141.00]	139.00[138.00,141.00]	138.00[137.00,140.00]	<0.001	139.50[137.00,141.00]	140.00[138.00,141.00]	0.037
	Other Hispanic	139.00[138.00,140.20]	139.00[138.00,141.00]	138.00[136.28,140.00]		139.00[138.00,141.00]	140.00[138.00,141.00]	
	Non-Hispanic White	139.00[138.00,141.00]	139.40[138.00,141.00]	139.00[137.00,141.00]		140.00[138.00,141.00]	140.00[138.00,141.00]	

	Non-Hispanic Black	139.00[138.00,141.00]	140.00[138.00,141.00]	139.00[137.00,141.00]		140.00[138.30,142.00]	140.00[138.00,141.00]	
	Other Race - Including Multi-Racial	139.00[138.00,141.00]	139.00[138.00,141.00]	139.00[137.00,141.00]		139.87[137.00,141.46]	140.00[138.00,141.00]	
Potassium(mmol/L)	Mexican American	3.90[3.70,4.10]	3.99[3.80,4.18]	4.00[3.80,4.20]		4.10[3.90,4.38]	4.10[3.89,4.30]	
	Other Hispanic	3.90[3.80,4.10]	4.00[3.80,4.20]	4.00[3.80,4.20]		4.05[3.84,4.29]	4.00[3.80,4.19]	
	Non-Hispanic White	4.00[3.80,4.20]	4.10[3.90,4.30]	4.10[3.90,4.30]	<0.001	4.20[3.90,4.43]	4.10[3.90,4.33]	<0.001
	Non-Hispanic Black	3.90[3.70,4.10]	3.92[3.70,4.18]	4.00[3.73,4.20]		4.10[3.76,4.31]	4.00[3.70,4.20]	
	Other Race - Including Multi-Racial	3.90[3.70,4.10]	3.99[3.80,4.20]	4.10[3.80,4.34]		4.14[3.90,4.42]	4.00[3.80,4.20]	
Chloride(mmol/L)	Mexican American	104.00[102.00,106.00]	104.00[102.00,106.00]	102.00[100.00,104.00]		103.00[100.74,105.00]	103.00[102.00,105.00]	
	Other Hispanic	103.00[101.92,105.00]	103.44[101.00,105.00]	101.00[99.00,103.95]		103.00[100.59,105.00]	103.00[101.60,105.00]	
	Non-Hispanic White	103.50[102.00,105.00]	103.00[101.00,105.00]	102.00[100.00,104.00]	<0.001	102.60[100.00,105.00]	103.00[101.00,105.00]	0.006
	Non-Hispanic Black	104.00[102.00,106.00]	104.00[102.00,105.00]	103.00[100.00,105.00]		103.00[101.00,105.00]	104.00[102.00,105.00]	
	Other Race - Including Multi-Racial	103.00[102.00,105.00]	103.00[101.00,105.00]	102.00[100.00,104.00]		102.95[101.00,105.00]	103.31[101.00,105.00]	
Transferrin Saturation (%)	Mexican American	24.10[17.00,33.47]	23.00[16.90,31.00]	23.00[15.00,30.00]		23.70[17.70,30.45]	24.80[19.17,33.06]	
	Other Hispanic	23.91[17.34,32.00]	23.55[18.74,31.11]	22.00[16.90,28.51]		23.75[19.66,31.00]	20.97[15.88,29.19]	
	Non-Hispanic White	25.00[18.40,33.00]	23.50[17.80,30.00]	24.00[17.63,29.00]	<0.001	23.15[15.27,29.29]	24.30[18.50,30.70]	<0.001
	Non-Hispanic Black	21.80[15.30,30.00]	21.85[16.00,28.00]	20.60[15.60,27.00]		19.89[15.11,26.20]	21.10[17.00,28.56]	
	Other Race - Including Multi-Racial	25.00[17.90,32.89]	24.07[18.07,30.54]	23.00[16.58,31.00]		21.47[16.79,33.34]	22.68[17.42,29.66]	
Globulin (g/L)	Mexican American	30.00[27.00,32.00]	31.00[28.00,34.00]	31.00[28.00,34.00]		31.00[28.00,34.00]	29.00[26.00,32.00]	
	Other Hispanic	30.00[27.00,32.00]	31.00[28.00,33.63]	31.00[29.00,34.00]		31.00[28.00,34.00]	30.00[28.00,33.00]	
	Non-Hispanic White	28.00[25.00,30.00]	28.00[26.00,31.00]	29.00[26.00,31.00]	<0.001	30.00[27.00,33.68]	28.00[25.00,31.00]	<0.001
	Non-Hispanic Black	31.00[28.00,34.00]	32.00[29.00,35.00]	33.00[30.00,36.00]		33.00[30.00,36.00]	32.00[29.00,35.00]	
	Other Race - Including Multi-Racial	29.00[27.00,32.00]	30.00[27.00,32.36]	30.00[28.00,33.00]		31.00[29.48,36.00]	29.00[26.00,32.00]	
alpha-carotene(umol/L)	Mexican American	0.06[0.03,0.10]	0.06[0.04,0.10]	0.06[0.04,0.10]		0.06[0.03,0.10]	0.05[0.04,0.10]	
	Other Hispanic	0.07[0.04,0.13]	0.09[0.04,0.16]	0.05[0.03,0.11]	<0.001	0.06[0.04,0.11]	0.07[0.03,0.12]	0.002
	Non-Hispanic White	0.05[0.03,0.10]	0.05[0.03,0.09]	0.04[0.02,0.07]		0.05[0.02,0.09]	0.06[0.04,0.12]	

	Non-Hispanic Black	0.03[0.02,0.07]	0.04[0.02,0.08]	0.03[0.02,0.07]		0.03[0.02,0.05]	0.05[0.02,0.09]	
	Other Race - Including Multi-Racial	0.06[0.03,0.12]	0.08[0.04,0.12]	0.06[0.03,0.10]		0.06[0.05,0.12]	0.10[0.05,0.12]	
trans-beta-carotene(umol/L)	Mexican American	0.23[0.14,0.40]	0.24[0.13,0.38]	0.20[0.12,0.35]	<0.001	0.32[0.18,0.53]	0.30[0.15,0.43]	0.085
	Other Hispanic	0.24[0.13,0.42]	0.25[0.14,0.44]	0.17[0.10,0.36]		0.34[0.18,0.45]	0.35[0.23,0.40]	
	Non-Hispanic White	0.23[0.13,0.42]	0.22[0.13,0.39]	0.17[0.09,0.32]		0.30[0.16,0.54]	0.34[0.20,0.56]	
	Non-Hispanic Black	0.19[0.11,0.34]	0.21[0.12,0.38]	0.20[0.10,0.34]		0.37[0.15,0.49]	0.32[0.20,0.53]	
	Other Race - Including Multi-Racial	0.24[0.13,0.46]	0.32[0.17,0.52]	0.20[0.10,0.49]		0.20[0.18,0.49]	0.40[0.25,0.65]	
cis-beta-carotene(umol/L)	Mexican American	0.01[0.01,0.02]	0.01[0.01,0.02]	0.01[0.01,0.02]	<0.001	0.02[0.01,0.03]	0.01[0.01,0.02]	0.012
	Other Hispanic	0.01[0.01,0.02]	0.01[0.01,0.02]	0.01[0.01,0.02]		0.02[0.01,0.02]	0.02[0.02,0.02]	
	Non-Hispanic White	0.01[0.01,0.03]	0.01[0.01,0.02]	0.01[0.01,0.02]		0.02[0.01,0.03]	0.02[0.01,0.03]	
	Non-Hispanic Black	0.01[0.01,0.02]	0.01[0.01,0.02]	0.01[0.01,0.02]		0.02[0.01,0.03]	0.02[0.01,0.03]	
	Other Race - Including Multi-Racial	0.01[0.01,0.03]	0.02[0.01,0.03]	0.01[0.01,0.03]		0.02[0.01,0.03]	0.02[0.02,0.03]	
beta-cryptoxanthin(umol/L)	Mexican American	0.23[0.14,0.36]	0.22[0.14,0.36]	0.20[0.12,0.33]	<0.001	0.22[0.09,0.39]	0.19[0.13,0.31]	<0.001
	Other Hispanic	0.15[0.09,0.23]	0.14[0.09,0.26]	0.14[0.09,0.25]		0.13[0.07,0.17]	0.24[0.12,0.29]	
	Non-Hispanic White	0.12[0.08,0.19]	0.10[0.07,0.16]	0.09[0.05,0.13]		0.13[0.07,0.20]	0.14[0.09,0.22]	
	Non-Hispanic Black	0.13[0.09,0.20]	0.13[0.09,0.22]	0.11[0.07,0.17]		0.10[0.07,0.19]	0.17[0.11,0.28]	
	Other Race - Including Multi-Racial	0.15[0.09,0.25]	0.16[0.09,0.25]	0.13[0.08,0.24]		0.25[0.09,0.27]	0.18[0.14,0.31]	
Lutein and zeaxanthin(umol/L)	Mexican American	0.28[0.21,0.38]	0.32[0.21,0.44]	0.31[0.22,0.44]	<0.001	0.27[0.18,0.39]	0.28[0.21,0.42]	0.039
	Other Hispanic	0.28[0.20,0.38]	0.27[0.20,0.40]	0.33[0.20,0.49]		0.25[0.19,0.36]	0.26[0.17,0.47]	
	Non-Hispanic White	0.24[0.17,0.34]	0.25[0.18,0.36]	0.23[0.16,0.32]		0.23[0.18,0.37]	0.27[0.19,0.38]	
	Non-Hispanic Black	0.26[0.20,0.37]	0.29[0.21,0.40]	0.29[0.20,0.38]		0.31[0.21,0.40]	0.33[0.25,0.45]	
	Other Race - Including Multi-Racial	0.31[0.21,0.44]	0.33[0.25,0.49]	0.35[0.21,0.52]		0.18[0.13,0.35]	0.34[0.26,0.58]	
trans-lycopene(umol/L)	Mexican American	0.38[0.28,0.51]	0.35[0.26,0.50]	0.33[0.25,0.44]	<0.001	0.28[0.15,0.36]	0.31[0.20,0.44]	0.006
	Other Hispanic	0.41[0.29,0.54]	0.34[0.22,0.50]	0.40[0.27,0.57]		0.26[0.21,0.39]	0.31[0.19,0.51]	
	Non-Hispanic White	0.42[0.30,0.56]	0.37[0.26,0.54]	0.34[0.21,0.49]		0.33[0.21,0.43]	0.34[0.22,0.50]	

	Non-Hispanic Black	0.43[0.29,0.58]	0.41[0.28,0.56]	0.34[0.23,0.51]		0.25[0.15,0.37]	0.29[0.20,0.42]	
	Other Race - Including Multi-Racial	0.37[0.23,0.51]	0.36[0.22,0.56]	0.33[0.20,0.50]		0.14[0.13,0.26]	0.28[0.16,0.46]	
VitaminD(nmol/L)	Mexican American	53.20[40.90,65.80]	51.60[39.80,63.70]	46.80[35.00,56.80]		53.90[39.92,72.00]	51.60[39.70,61.10]	
	Other Hispanic	55.83[44.70,68.20]	44.13[37.43,58.70]	53.20[42.17,58.70]		45.71[38.11,66.82]	56.30[37.30,65.64]	
	Non-Hispanic White	66.50[54.40,80.30]	59.20[48.30,72.90]	58.70[45.90,72.90]	<0.001	58.70[44.40,70.60]	63.50[51.60,75.40]	<0.001
	Non-Hispanic Black	37.50[27.90,50.80]	37.50[28.80,50.80]	38.09[30.20,51.23]		40.35[30.20,58.70]	45.26[32.69,58.70]	
	Other Race - Including Multi-Racial	50.80[39.80,64.10]	49.20[35.00,63.67]	53.20[36.95,66.35]		61.21[48.14,69.49]	55.39[39.93,64.92]	
Creatine Phosphokinase (CPK) (IU/L)	Mexican American	109.00[76.00,163.00]	127.63[87.00,187.00]	96.00[66.00,136.64]		102.27[60.54,159.00]	102.60[73.00,140.92]	
	Other Hispanic	110.00[76.00,177.87]	121.00[86.00,184.89]	100.57[70.00,146.33]		103.00[74.00,160.00]	96.00[68.00,136.13]	
	Non-Hispanic White	100.00[70.00,149.00]	99.00[71.00,149.00]	89.00[61.00,136.00]	<0.001	74.00[55.00,107.60]	94.00[65.00,128.00]	<0.001
	Non-Hispanic Black	160.00[105.00,251.31]	182.00[119.96,300.99]	157.69[98.00,265.00]		168.01[98.41,250.07]	153.00[93.88,236.00]	
	Other Race - Including Multi-Racial	102.00[72.00,156.00]	121.29[82.00,187.99]	101.07[74.00,160.00]		94.32[82.77,149.95]	103.16[76.00,151.00]	
Direct HDL-Cholesterol(mmol/L)	Mexican American	1.27[1.06,1.53]	1.16[0.98,1.40]	1.14[0.98,1.34]		1.22[1.03,1.40]	1.28[1.09,1.55]	
	Other Hispanic	1.29[1.09,1.58]	1.16[1.01,1.42]	1.16[0.98,1.42]		1.27[1.06,1.45]	1.27[1.09,1.45]	
	Non-Hispanic White	1.37[1.11,1.68]	1.27[1.06,1.55]	1.14[0.96,1.37]	<0.001	1.28[1.07,1.65]	1.37[1.14,1.71]	<0.001
	Non-Hispanic Black	1.42[1.19,1.73]	1.34[1.11,1.63]	1.27[1.06,1.55]		1.32[1.09,1.64]	1.42[1.19,1.71]	
	Other Race - Including Multi-Racial	1.34[1.11,1.63]	1.27[1.06,1.55]	1.16[0.96,1.42]		1.37[1.10,1.60]	1.34[1.03,1.66]	
Direct HDL-Cholesterol (mg/dL)	Mexican American	48.00[41.00,59.00]	45.00[38.00,54.00]	44.00[38.00,52.00]		46.00[39.00,56.00]	49.00[42.00,60.00]	
	Other Hispanic	49.00[41.00,60.00]	45.00[38.00,55.00]	44.00[37.37,53.00]		47.00[40.00,56.00]	48.00[41.00,56.96]	
	Non-Hispanic White	52.00[43.00,64.00]	49.00[41.00,59.00]	43.00[36.00,52.00]	<0.001	48.00[40.00,61.00]	52.00[43.00,65.00]	<0.001
	Non-Hispanic Black	55.00[45.00,66.00]	51.00[43.00,63.00]	49.00[41.00,59.00]		52.00[43.00,66.00]	55.00[45.00,65.27]	
	Other Race - Including Multi-Racial	52.00[43.00,62.00]	48.00[41.00,59.00]	45.00[37.00,55.00]		53.00[40.48,61.75]	52.00[41.00,64.49]	
Total Cholesterol(mmol/L)	Mexican American	4.84[4.22,5.51]	5.22[4.53,5.95]	4.94[4.24,5.82]		5.02[4.48,5.72]	5.20[4.42,5.82]	
	Other Hispanic	4.84[4.19,5.53]	5.30[4.65,5.99]	5.09[4.32,5.87]	<0.001	5.29[4.54,6.12]	5.29[4.68,5.92]	0.123
	Non-Hispanic White	5.02[4.37,5.74]	5.21[4.55,5.95]	4.63[3.96,5.51]		5.10[4.27,6.00]	5.20[4.53,5.90]	

	Non-Hispanic Black	4.68[4.09,5.40]	5.04[4.37,5.74]	4.84[4.11,5.64]		5.09[4.36,5.90]	5.07[4.34,5.82]	
	Other Race - Including Multi-Racial	4.81[4.22,5.48]	5.30[4.57,6.00]	4.83[4.02,5.56]		4.90[4.30,5.84]	4.99[4.27,5.80]	
	Mexican American	4.84[4.24,5.53]	5.22[4.53,5.92]	4.96[4.22,5.82]		4.99[4.45,5.78]	5.17[4.37,5.84]	
	Other Hispanic	4.84[4.19,5.53]	5.26[4.63,6.00]	5.04[4.27,5.85]		5.25[4.42,6.00]	5.25[4.63,5.92]	
Cholesterol, total (mmol/L)	Non-Hispanic White	5.02[4.37,5.74]	5.22[4.52,5.95]	4.63[3.93,5.48]	<0.001	5.04[4.24,5.90]	5.15[4.45,5.82]	0.095
	Non-Hispanic Black	4.66[4.06,5.35]	4.99[4.32,5.69]	4.78[4.05,5.59]		5.05[4.24,5.77]	4.97[4.28,5.74]	
	Other Race - Including Multi-Racial	4.81[4.24,5.53]	5.31[4.55,5.97]	4.86[4.03,5.64]		5.02[4.29,6.05]	4.94[4.19,5.84]	
	Mexican American	105.00[74.00,152.00]	128.00[89.00,187.61]	154.65[111.00,231.66]		134.00[107.00,178.95]	124.94[92.95,178.00]	
	Other Hispanic	98.00[68.00,142.00]	127.00[92.00,177.00]	142.32[105.00,212.48]		139.04[95.00,178.11]	131.06[98.00,170.26]	
Triglyceride (mg/dL)	Non-Hispanic White	100.00[69.00,146.00]	125.00[90.00,180.00]	152.00[102.47,211.00]	<0.001	118.35[80.00,180.44]	122.00[83.00,172.02]	<0.001
	Non-Hispanic Black	74.00[55.00,104.00]	84.00[61.00,118.00]	99.00[73.00,140.64]		87.51[70.20,122.00]	90.04[66.07,124.00]	
	Other Race - Including Multi-Racial	94.81[65.00,140.00]	112.00[84.12,162.60]	144.00[92.00,197.15]		134.13[106.54,160.29]	126.69[86.04,183.28]	
	Mexican American	1.19[0.84,1.72]	1.45[1.00,2.12]	1.75[1.25,2.61]		1.51[1.20,2.02]	1.41[1.05,2.01]	
	Other Hispanic	1.11[0.77,1.60]	1.43[1.04,2.00]	1.61[1.19,2.40]		1.57[1.07,2.01]	1.48[1.11,1.92]	
Triglyceride (mmol/L)	Non-Hispanic White	1.13[0.78,1.65]	1.41[1.02,2.03]	1.72[1.16,2.38]	<0.001	1.33[0.90,2.03]	1.38[0.94,1.94]	<0.001
	Non-Hispanic Black	0.84[0.62,1.17]	0.95[0.69,1.33]	1.12[0.82,1.59]		0.99[0.79,1.38]	1.02[0.75,1.40]	
	Other Race - Including Multi-Racial	1.07[0.73,1.58]	1.26[0.95,1.84]	1.63[1.04,2.23]		1.52[1.20,1.81]	1.43[0.97,2.07]	
	Mexican American	2.87[2.33,3.44]	3.10[2.51,3.69]	2.89[2.17,3.54]		2.97[2.56,3.54]	2.89[2.35,3.41]	
	Other Hispanic	2.92[2.35,3.49]	3.23[2.66,3.80]	2.74[2.28,3.47]		3.37[2.52,3.71]	3.22[2.57,3.72]	
LDL-cholesterol(mmol/L)	Non-Hispanic White	2.92[2.38,3.54]	3.08[2.48,3.70]	2.48[1.94,3.18]	<0.001	2.71[2.20,3.47]	3.00[2.43,3.59]	<0.001
	Non-Hispanic Black	2.74[2.17,3.36]	3.05[2.48,3.70]	2.77[2.17,3.50]		2.92[2.26,3.77]	3.03[2.46,3.64]	
	Other Race - Including Multi-Racial	2.82[2.29,3.36]	3.13[2.48,3.85]	2.50[1.87,3.25]		3.03[1.74,3.59]	2.56[1.89,3.32]	
	Mexican American	5.26[5.10,5.40]	5.80[5.70,6.00]	7.50[6.70,9.20]		6.00[5.60,6.90]	5.70[5.40,6.30]	
	Other Hispanic	5.20[5.00,5.40]	5.80[5.70,6.00]	7.30[6.50,9.23]	<0.001	5.86[5.50,6.34]	5.70[5.40,6.00]	<0.001
Glycohemoglobin(%)	Non-Hispanic White	5.20[5.00,5.40]	5.80[5.70,6.00]	6.80[6.30,7.74]		5.60[5.30,6.00]	5.60[5.30,5.90]	

	Non-Hispanic Black	5.30[5.10,5.50]	5.90[5.70,6.00]	7.00[6.50,8.40]		6.00[5.50,6.70]	5.90[5.50,6.30]	
	Other Race - Including Multi-Racial	5.30[5.10,5.40]	5.80[5.70,6.00]	7.00[6.50,8.20]		6.14[5.50,6.80]	5.90[5.50,6.20]	
Glucose, serum (mmol/L)	Mexican American	4.94[4.61,5.27]	5.44[5.00,5.88]	8.33[6.38,12.10]		5.77[5.16,7.11]	5.38[5.00,6.42]	
	Other Hispanic	4.88[4.61,5.27]	5.38[4.94,5.94]	7.84[6.16,11.77]		5.44[5.11,6.14]	5.27[4.88,5.92]	
	Non-Hispanic White	4.94[4.61,5.27]	5.38[5.00,5.94]	7.27[5.88,9.71]	<0.001	5.55[5.05,6.41]	5.33[4.94,5.94]	<0.001
	Non-Hispanic Black	4.83[4.50,5.16]	5.16[4.83,5.65]	7.16[5.72,9.83]		5.54[5.05,6.92]	5.40[4.94,6.16]	
	Other Race - Including Multi-Racial	4.94[4.61,5.27]	5.38[5.00,5.83]	7.33[5.72,9.60]		5.72[5.03,6.72]	5.50[5.05,6.38]	
Glucose, plasma (mg/dL)	Mexican American	96.20[91.00,102.00]	105.48[99.00,114.00]	155.00[127.80,215.00]		110.96[99.65,131.96]	105.00[97.98,121.00]	
	Other Hispanic	95.00[89.70,101.00]	107.00[99.00,114.00]	156.75[126.08,214.74]		107.00[99.00,120.02]	104.23[94.56,114.00]	
	Non-Hispanic White	96.00[90.00,102.00]	106.00[99.00,114.00]	141.00[121.00,178.00]	<0.001	107.29[95.62,129.58]	103.00[95.30,113.00]	0.017
	Non-Hispanic Black	92.60[87.30,98.00]	100.37[94.00,108.00]	139.26[112.42,179.00]		102.16[93.10,118.77]	104.18[96.00,116.59]	
	Other Race - Including Multi-Racial	96.00[90.00,101.78]	105.00[97.98,111.64]	131.33[113.11,161.00]		103.93[95.20,120.10]	106.13[97.00,116.00]	
Plasma glucose:SI(mmol/L)	Mexican American	5.34[5.05,5.66]	5.86[5.50,6.33]	8.60[7.09,11.94]		6.16[5.54,7.33]	5.83[5.44,6.71]	
	Other Hispanic	5.27[4.98,5.61]	5.94[5.50,6.33]	8.70[7.00,11.92]		5.94[5.50,6.67]	5.79[5.25,6.33]	
	Non-Hispanic White	5.33[5.00,5.66]	5.88[5.50,6.33]	7.83[6.72,9.88]	<0.001	5.96[5.31,7.20]	5.72[5.29,6.27]	0.016
	Non-Hispanic Black	5.14[4.85,5.44]	5.58[5.22,6.00]	7.74[6.25,9.94]		5.67[5.17,6.59]	5.78[5.33,6.47]	
	Other Race - Including Multi-Racial	5.33[5.00,5.65]	5.83[5.44,6.20]	7.30[6.28,8.94]		5.77[5.29,6.67]	5.89[5.38,6.44]	
C-peptide:SI(nmol/L)	Mexican American	0.72[0.55,0.94]	0.94[0.73,1.32]	1.01[0.72,1.28]		0.89[0.70,1.16]	0.89[0.70,1.16]	
	Other Hispanic	0.68[0.51,0.92]	0.99[0.76,1.16]	0.92[0.68,1.16]		0.90[0.70,1.14]	0.82[0.65,1.11]	
	Non-Hispanic White	0.66[0.50,0.90]	1.02[0.77,1.33]	1.13[0.85,1.62]	<0.001	0.98[0.61,1.40]	0.82[0.60,1.10]	0.002
	Non-Hispanic Black	0.60[0.46,0.80]	0.84[0.60,1.14]	0.99[0.76,1.27]		0.90[0.66,1.13]	0.79[0.57,0.97]	
	Other Race - Including Multi-Racial	0.62[0.48,0.82]	0.75[0.58,1.13]	0.69[0.50,1.09]		0.79[0.39,0.97]	0.66[0.60,0.79]	
Insulin(uU/mL)	Mexican American	10.23[6.79,15.55]	14.28[9.24,22.08]	14.42[8.95,23.90]		12.04[8.88,18.45]	11.38[6.98,17.90]	
	Other Hispanic	9.27[6.15,13.77]	12.62[8.60,20.00]	13.99[8.19,23.40]	<0.001	11.67[8.14,16.16]	11.27[8.30,15.59]	0.04
	Non-Hispanic White	7.94[5.29,12.30]	11.42[7.02,18.13]	14.41[8.97,24.77]		11.15[6.70,16.85]	9.89[6.44,15.07]	

	Non-Hispanic Black	8.77[5.94,13.67]	11.44[7.28,18.70]	13.83[8.20,22.27]		10.45[6.62,15.09]	11.97[7.10,16.93]	
	Other Race - Including Multi-Racial	8.22[5.12,11.86]	11.31[7.02,17.87]	10.91[6.98,18.24]		9.58[6.55,15.91]	8.89[5.47,12.96]	
Insulin:SI(pmol/L)	Mexican American	63.06[45.32,91.57]	94.81[66.45,131.29]	96.57[58.60,129.65]		73.72[50.81,107.93]	79.01[53.75,108.53]	
	Other Hispanic	64.71[46.07,84.43]	82.66[56.50,115.07]	103.48[78.71,148.68]		72.11[57.36,88.58]	65.19[48.77,71.68]	
	Non-Hispanic White	50.70[37.54,72.30]	82.73[54.18,112.91]	120.54[65.45,181.73]	<0.001	69.90[42.79,126.99]	58.52[42.30,88.48]	0.014
	Non-Hispanic Black	55.26[38.63,80.82]	82.18[53.60,124.86]	116.49[80.41,145.16]		72.32[44.31,105.17]	77.47[50.17,100.93]	
	Other Race - Including Multi-Racial	59.86[40.57,82.05]	71.27[42.67,123.86]	55.06[43.79,77.09]		53.51[31.56,77.14]	58.99[40.07,86.88]	
Two Hour Glucose(OGTT)(mg/dL)	Mexican American	101.00[84.00,123.00]	126.00[102.00,158.80]	299.71[259.73,421.07]		156.74[128.39,199.75]	140.32[108.00,160.71]	
	Other Hispanic	97.00[81.84,119.84]	125.00[100.08,155.00]	305.78[225.72,376.44]		139.00[121.19,210.39]	122.39[107.12,159.53]	
	Non-Hispanic White	100.00[82.00,122.00]	130.00[102.00,166.00]	272.46[196.92,313.37]	<0.001	160.17[112.25,196.90]	118.00[95.00,155.13]	0.002
	Non-Hispanic Black	95.00[81.00,114.00]	113.73[93.00,138.32]	218.97[156.57,280.76]		126.55[102.84,150.34]	123.35[102.00,154.00]	
	Other Race - Including Multi-Racial	100.00[85.00,122.64]	125.15[98.00,155.00]	283.29[227.09,363.80]		117.65[114.05,145.35]	124.00[102.00,152.67]	

Supplementary Table SVIII. Survival status subgroup comparison of laboratory characteristics between different disease groups

Terms	Survival status	Normal	Prediabetes	T2D	p	Normal	MCI	p
White blood cell count(1000 cells/uL)	Assumed alive	6.90[5.70,8.20]	7.10[5.90,8.60]	7.60[6.30,9.00]	<0.001	6.80[5.60,7.80]	6.60[5.60,7.90]	<0.001
	Assumed deceased	6.80[5.60,8.10]	7.40[6.10,8.80]	7.60[6.30,9.17]		7.10[5.90,8.40]	7.10[5.90,8.20]	
Lymphocyte percent(%)	Assumed alive	30.00[25.00,35.20]	30.60[25.50,35.80]	28.90[23.60,34.40]	<0.001	29.00[23.40,35.21]	28.70[23.80,33.80]	<0.001
	Assumed deceased	27.00[21.50,33.10]	27.30[21.30,33.00]	26.10[21.10,32.00]		25.90[20.40,31.70]	26.10[20.90,32.10]	
Segmented neutrophils percent(%)	Assumed alive	58.60[52.60,64.20]	57.80[51.80,63.60]	59.80[53.50,65.60]	<0.001	59.30[51.30,65.60]	59.30[53.40,64.80]	<0.001
	Assumed deceased	60.90[54.00,66.90]	60.70[54.10,66.90]	61.80[54.93,67.30]		61.40[54.90,67.20]	61.60[54.90,66.90]	
Eosinophils percent(%)	Assumed alive	2.30[1.50,3.40]	2.50[1.60,3.70]	2.40[1.70,3.60]	<0.001	2.60[1.60,3.70]	2.60[1.70,3.80]	0.816
	Assumed deceased	2.30[1.50,3.60]	2.60[1.70,3.80]	2.50[1.70,3.80]		2.50[1.70,3.70]	2.50[1.70,3.60]	
Basophils percent(%)	Assumed alive	0.60[0.40,0.90]	0.70[0.50,0.90]	0.70[0.50,0.90]	<0.001	0.60[0.40,0.90]	0.70[0.50,0.90]	<0.001
	Assumed deceased	0.60[0.40,0.90]	0.60[0.40,0.90]	0.60[0.40,0.90]		0.60[0.40,0.80]	0.60[0.40,0.90]	
Lymphocyte number(1000 cells/uL)	Assumed alive	2.00[1.60,2.50]	2.20[1.70,2.70]	2.10[1.70,2.70]	<0.001	1.90[1.60,2.50]	1.80[1.50,2.30]	0.001
	Assumed deceased	1.80[1.40,2.30]	1.90[1.50,2.40]	2.00[1.50,2.50]		1.80[1.30,2.30]	1.80[1.40,2.20]	
Monocyte number(1000cells/uL)	Assumed alive	0.50[0.40,0.60]	0.60[0.40,0.70]	0.60[0.40,0.70]	<0.001	0.50[0.40,0.60]	0.50[0.40,0.70]	<0.001
	Assumed deceased	0.60[0.50,0.70]	0.60[0.50,0.80]	0.60[0.50,0.70]		0.60[0.50,0.70]	0.60[0.50,0.70]	
Segmented neutrophils num(1000 cells/uL)	Assumed alive	4.00[3.10,5.10]	4.10[3.20,5.20]	4.50[3.50,5.60]	<0.001	3.90[3.00,4.90]	3.80[3.10,4.80]	<0.001
	Assumed deceased	4.10[3.20,5.10]	4.40[3.50,5.60]	4.60[3.60,5.80]		4.30[3.50,5.30]	4.20[3.40,5.20]	
Eosinophils number(1000 cells/uL)	Assumed alive	0.20[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]	<0.001	0.20[0.10,0.20]	0.20[0.10,0.30]	0.83
	Assumed deceased	0.20[0.10,0.20]	0.20[0.10,0.30]	0.20[0.10,0.30]		0.20[0.10,0.30]	0.20[0.10,0.30]	
Basophils number(1000 cells/uL)	Assumed alive	0.00[0.00,0.10]	0.00[0.00,0.10]	0.10[0.00,0.10]	<0.001	0.00[0.00,0.10]	0.00[0.00,0.10]	0.001
	Assumed deceased	0.00[0.00,0.10]	0.00[0.00,0.10]	0.00[0.00,0.10]		0.00[0.00,0.10]	0.00[0.00,0.10]	
Red blood cell count(millioncells/uL)	Assumed alive	4.71[4.39,5.06]	4.72[4.42,5.05]	4.74[4.39,5.06]	<0.001	4.51[4.18,4.82]	4.56[4.29,4.85]	0.175
	Assumed deceased	4.58[4.22,4.93]	4.62[4.28,4.96]	4.58[4.18,4.95]		4.53[4.12,4.88]	4.55[4.24,4.84]	
Hemoglobin (g/dL)	Assumed alive	14.40[13.50,15.40]	14.20[13.30,15.10]	14.20[13.10,15.10]	<0.001	13.70[12.50,14.60]	14.10[13.30,15.00]	<0.001

	Assumed deceased	14.30[13.30,15.40]	14.20[13.20,15.20]	14.00[12.70,15.00]		14.00[12.70,15.10]	14.10[13.30,15.00]	
Hematocrit (%)	Assumed alive	42.40[39.30,45.30]	42.00[39.08,44.90]	41.70[38.50,44.40]	<0.001	40.60[37.61,43.40]	41.47[39.00,44.20]	0.001
	Assumed deceased	42.30[39.30,45.30]	42.10[39.20,45.20]	41.42[38.00,44.49]		41.60[37.90,44.93]	41.90[39.20,44.50]	
Mean cell volume(fL)	Assumed alive	90.10[87.20,92.80]	89.30[85.80,92.20]	88.80[85.50,91.65]	<0.001	90.50[86.80,93.40]	91.50[88.70,94.20]	<0.001
	Assumed deceased	92.60[89.40,95.90]	91.40[88.36,94.30]	90.40[86.90,94.02]		92.30[88.60,95.60]	92.03[89.40,95.20]	
Mean cell hemoglobin(pg)	Assumed alive	30.70[29.60,31.80]	30.20[28.80,31.40]	30.10[28.80,31.30]	<0.001	30.60[29.00,31.70]	31.20[30.00,32.20]	<0.001
	Assumed deceased	31.50[30.20,32.70]	30.90[29.80,32.10]	30.70[29.20,32.10]		31.00[29.60,32.50]	31.30[30.20,32.50]	
Mean Cell Hgb Conc.(g/dL)	Assumed alive	34.00[33.50,34.60]	33.80[33.20,34.30]	33.80[33.20,34.40]	<0.001	33.70[33.10,34.30]	34.00[33.40,34.70]	<0.001
	Assumed deceased	34.00[33.40,34.50]	33.80[33.30,34.30]	33.80[33.20,34.40]		33.70[33.10,34.30]	33.90[33.40,34.40]	
Red cell distribution width(%)	Assumed alive	12.60[12.20,13.20]	13.20[12.60,13.90]	13.20[12.50,13.90]	<0.001	13.30[12.70,14.10]	13.00[12.50,13.70]	<0.001
	Assumed deceased	12.80[12.30,13.50]	13.10[12.50,13.90]	13.10[12.50,14.10]		13.10[12.50,13.90]	12.90[12.40,13.50]	
Platelet count(1000cells/uL)	Assumed alive	247.00[212.00,289.00]	250.00[211.00,295.00]	240.00[201.00,293.00]	<0.001	223.52[189.00,272.56]	229.00[195.00,269.00]	0.035
	Assumed deceased	242.00[200.00,290.32]	246.00[203.00,296.00]	235.00[193.00,282.66]		233.00[189.00,278.00]	239.00[197.00,282.00]	
Mean platelet volume(fL)	Assumed alive	8.10[7.60,8.70]	8.10[7.60,8.80]	8.20[7.60,8.90]	<0.001	8.40[7.70,9.10]	8.20[7.70,8.90]	0.009
	Assumed deceased	8.00[7.50,8.60]	8.00[7.50,8.60]	8.20[7.60,8.80]		8.30[7.70,8.90]	8.10[7.60,8.80]	
Folate, RBC (nmol/L RBC)	Assumed alive	831.30[591.20,1164.20]	963.00[681.00,1350.00]	1080.00[765.90,1480.00]	<0.001	926.13[672.33,1340.75]	1150.00[832.00,1600.00]	<0.001
	Assumed deceased	806.30[573.00,1130.00]	890.08[628.00,1340.00]	912.80[652.30,1420.00]		812.88[566.99,1204.79]	890.10[654.60,1240.00]	
Folate, serum(nmol/L)	Assumed alive	29.20[20.60,41.40]	31.70[21.50,47.63]	33.50[23.54,50.03]	<0.001	31.55[21.50,41.00]	40.79[27.90,55.65]	0.052
	Assumed deceased	35.07[22.70,54.40]	36.70[23.42,57.36]	34.31[23.60,54.80]		34.00[23.10,49.60]	39.90[26.84,58.90]	
Vitamin B12(pmol/L)	Assumed alive	346.12[264.90,458.30]	365.83[273.10,487.08]	367.50[271.58,519.60]	<0.001	354.22[257.16,510.70]	386.70[281.87,547.48]	0.007
	Assumed deceased	354.32[256.82,483.39]	350.55[250.19,484.87]	351.30[261.25,505.91]		363.71[256.64,526.37]	362.63[263.46,487.10]	
Homocysteine(umol/L)	Assumed alive	7.51[6.26,9.00]	8.04[6.74,9.58]	7.89[6.29,9.58]	<0.001	8.37[6.97,10.83]	8.43[7.12,10.05]	<0.001
	Assumed deceased	9.54[7.66,12.13]	9.97[8.13,12.06]	10.01[8.03,12.46]		10.77[8.49,13.51]	9.60[7.92,11.71]	
Blood mercury, total(nmol/L)	Assumed alive	4.49[2.30,8.98]	4.60[2.40,9.20]	4.05[2.20,8.25]	0.001	4.27[1.80,8.58]	5.30[2.80,10.95]	0.012
	Assumed deceased	4.29[2.20,8.48]	4.50[2.20,8.50]	3.60[2.00,7.20]		3.10[1.70,5.50]	3.60[2.00,7.69]	

Mercury, inorganic(nmol/L)	Assumed alive	1.25[1.25,1.50]	1.25[0.95,1.50]	1.25[0.95,1.50]	<0.001	0.95[0.95,1.45]	0.95[0.95,1.80]	0.014
	Assumed deceased	1.40[1.25,1.50]	1.25[1.25,1.50]	1.25[1.25,1.50]		0.95[0.95,0.95]	0.95[0.95,1.40]	
Tot Iron Binding Capacity TIBC(umol/L)	Assumed alive	62.47[56.21,69.99]	60.68[54.98,67.13]	60.71[54.80,66.95]	<0.001	60.78[55.10,67.25]	64.08[58.00,70.51]	0.182
	Assumed deceased	63.19[56.21,70.71]	63.55[56.03,71.60]	64.19[56.39,71.07]		63.19[56.21,70.53]	63.70[56.39,70.53]	
Ferritin(ug/L)	Assumed alive	63.00[29.00,125.00]	86.96[41.38,163.32]	103.00[47.33,205.00]	<0.001	126.36[59.00,183.67]	100.99[56.68,182.00]	0.839
	Assumed deceased	98.00[50.00,179.44]	117.00[56.00,195.00]	126.02[66.00,236.00]		110.00[56.93,200.17]	107.00[54.87,187.97]	
Cotinine, Serum (ng/mL)	Assumed alive	0.05[0.01,18.30]	0.04[0.01,23.00]	0.04[0.01,0.57]	<0.001	0.04[0.01,0.27]	0.02[0.01,0.08]	<0.001
	Assumed deceased	0.08[0.02,149.00]	0.06[0.02,64.08]	0.06[0.02,3.93]		0.06[0.03,1.00]	0.04[0.02,0.20]	
gamma-tocopherol (umol/L)	Assumed alive	4.64[3.10,6.41]	5.03[3.36,7.28]	5.33[3.41,7.85]	<0.001	4.46[2.90,7.72]	3.93[2.19,6.65]	0.003
	Assumed deceased	4.59[2.56,6.91]	5.09[3.05,7.71]	5.96[3.79,8.55]		4.71[2.79,7.64]	4.64[2.40,7.35]	
Retinyl palmitate (umol/L)	Assumed alive	0.05[0.03,0.09]	0.05[0.03,0.08]	0.05[0.03,0.09]	<0.001	0.05[0.03,0.08]	0.07[0.04,0.12]	<0.001
	Assumed deceased	0.06[0.03,0.09]	0.06[0.03,0.09]	0.06[0.03,0.12]		0.05[0.03,0.09]	0.06[0.04,0.10]	
Retinyl stearate (umol/L)	Assumed alive	0.02[0.01,0.02]	0.02[0.01,0.02]	0.02[0.02,0.02]	<0.001	0.01[0.01,0.02]	0.01[0.01,0.02]	0.785
	Assumed deceased	0.01[0.01,0.02]	0.01[0.01,0.02]	0.02[0.01,0.03]		0.01[0.01,0.01]	0.01[0.01,0.01]	
Retinol (umol/L)	Assumed alive	1.95[1.62,2.35]	1.94[1.62,2.33]	2.01[1.65,2.42]	<0.001	2.04[1.63,2.55]	2.30[2.01,2.65]	<0.001
	Assumed deceased	2.17[1.79,2.59]	2.17[1.80,2.63]	2.24[1.80,2.67]		2.14[1.77,2.58]	2.26[1.91,2.69]	
Albumin, urine(ug/mL)	Assumed alive	6.60[3.40,12.20]	7.41[4.00,14.80]	11.60[5.40,29.30]	<0.001	12.74[5.71,29.90]	7.00[3.60,14.40]	<0.001
	Assumed deceased	8.80[4.30,20.00]	10.60[4.90,26.91]	20.80[7.70,84.43]		17.86[6.90,53.19]	9.80[4.60,24.20]	
Albumin (g/L)	Assumed alive	43.94[41.00,46.00]	42.00[40.00,44.00]	42.00[39.00,44.00]	<0.001	42.00[40.00,44.00]	43.00[41.00,44.00]	0.002
	Assumed deceased	43.00[41.00,45.00]	42.00[40.00,44.00]	42.00[39.00,44.00]		42.00[40.00,44.00]	43.00[41.00,44.00]	
Creatinine, urine(mg/dL)	Assumed alive	114.00[62.00,175.00]	111.00[62.00,167.00]	106.00[67.00,158.00]	<0.001	100.00[61.00,160.28]	92.00[50.00,142.00]	0.023
	Assumed deceased	99.00[55.34,154.00]	95.42[57.00,145.00]	96.00[57.00,136.00]		99.00[57.74,142.00]	91.00[50.02,137.00]	
Creatinine(umol/L)	Assumed alive	72.49[61.88,86.63]	75.14[63.65,88.40]	74.26[61.88,89.28]	<0.001	77.79[61.88,99.01]	78.68[64.53,91.94]	0.01
	Assumed deceased	79.56[63.65,91.94]	81.33[70.70,97.24]	84.86[70.70,108.23]		81.64[70.70,106.08]	79.56[61.90,97.20]	
Alanine Aminotransferase (ALT) (U/L)	Assumed alive	20.00[16.00,28.00]	22.00[17.00,31.00]	23.00[18.00,32.00]	<0.001	19.00[15.00,24.00]	20.00[17.00,26.00]	<0.001

	Assumed deceased	20.00[16.00,26.00]	20.00[16.00,25.00]	21.00[16.00,28.00]		18.00[15.00,23.00]	19.00[16.00,25.00]	
Aspartate Aminotransferase (AST) (U/L)	Assumed alive	22.00[19.00,27.00]	23.00[20.00,28.00]	23.00[19.00,28.00]	<0.001	22.00[19.00,27.00]	23.00[20.00,27.00]	0.626
	Assumed deceased	23.00[20.00,28.00]	23.00[20.00,28.00]	22.00[19.00,28.00]		23.00[20.00,28.00]	23.00[20.00,27.00]	
Alkaline Phosphatase (ALP) (U/L)	Assumed alive	64.00[53.00,78.00]	69.00[57.00,84.00]	70.00[57.00,88.00]	<0.001	70.00[57.00,86.00]	65.00[53.00,78.00]	<0.001
	Assumed deceased	72.00[59.00,90.00]	72.00[59.33,87.00]	74.00[60.00,94.00]		81.00[63.00,99.00]	75.00[61.00,91.00]	
Blood urea nitrogen (mmol/L)	Assumed alive	4.28[3.57,5.36]	4.64[3.93,6.07]	5.00[3.93,6.43]	<0.001	5.36[4.28,6.78]	5.36[4.28,6.43]	<0.001
	Assumed deceased	5.00[3.93,6.43]	5.70[4.28,7.14]	6.09[4.64,8.21]		6.10[4.64,7.50]	5.71[4.64,7.14]	
Total Calcium (mmol/L)	Assumed alive	2.35[2.30,2.42]	2.35[2.30,2.40]	2.35[2.30,2.42]	<0.001	2.35[2.30,2.40]	2.35[2.30,2.42]	0.434
	Assumed deceased	2.35[2.30,2.42]	2.38[2.30,2.42]	2.38[2.30,2.42]		2.38[2.30,2.42]	2.35[2.30,2.42]	
Bicarbonate (mmol/L)	Assumed alive	25.00[23.00,26.00]	25.00[24.00,27.00]	25.00[23.00,26.00]	<0.001	25.00[24.00,27.00]	25.00[24.00,27.00]	<0.001
	Assumed deceased	25.00[23.00,26.00]	25.00[23.00,27.00]	25.00[23.00,26.00]		25.00[23.00,26.00]	25.00[23.00,26.00]	
Gamma Glutamyl Transferase (GGT) (U/L)	Assumed alive	18.00[13.00,27.00]	22.00[16.00,33.00]	25.00[17.00,39.00]	<0.001	19.42[14.00,30.00]	19.00[15.00,26.00]	<0.001
	Assumed deceased	21.00[15.00,35.00]	22.00[16.00,33.00]	25.00[18.00,43.00]		21.00[15.00,33.84]	21.00[15.00,32.00]	
Iron (umol/L)	Assumed alive	15.58[11.60,20.06]	14.10[10.70,18.10]	13.40[10.54,17.40]	<0.001	13.14[10.40,17.20]	15.20[11.80,18.81]	<0.001
	Assumed deceased	15.20[11.60,19.70]	13.80[10.60,17.90]	13.40[10.20,17.20]		14.15[10.58,18.27]	14.87[11.46,18.98]	
Lactate Dehydrogenase (LDH) (U/L)	Assumed alive	126.00[111.00,143.00]	135.00[119.00,155.00]	131.00[115.00,152.00]	<0.001	137.00[120.00,154.00]	131.00[117.00,147.00]	<0.001
	Assumed deceased	138.00[121.00,159.00]	140.00[122.00,162.00]	140.00[121.00,164.00]		150.00[128.00,173.52]	143.00[125.00,165.00]	
Phosphorus (mmol/L)	Assumed alive	1.20[1.10,1.32]	1.20[1.07,1.32]	1.20[1.07,1.32]	<0.001	1.16[1.07,1.29]	1.19[1.07,1.29]	0.001
	Assumed deceased	1.16[1.07,1.29]	1.20[1.10,1.32]	1.20[1.07,1.32]		1.16[1.03,1.26]	1.16[1.07,1.26]	
Bilirubin,total(umol/L)	Assumed alive	10.30[8.55,13.68]	10.26[6.84,11.97]	10.26[6.84,13.68]	<0.001	10.26[8.55,13.68]	10.30[8.55,13.68]	0.071
	Assumed deceased	11.97[8.60,15.39]	10.30[8.55,13.68]	10.26[8.55,13.68]		10.30[8.55,13.68]	10.26[8.55,13.68]	
Protein,total(g/L)	Assumed alive	72.00[69.00,75.00]	71.00[68.00,74.00]	71.00[68.00,74.00]	<0.001	73.00[69.00,76.00]	70.00[67.00,73.00]	<0.001
	Assumed deceased	72.00[69.00,75.00]	71.00[68.00,75.00]	72.00[68.00,75.00]		73.96[70.00,77.00]	72.00[69.00,76.00]	
Uric acid(umol/L)	Assumed alive	309.30[249.80,368.80]	333.10[279.60,386.60]	321.20[267.70,386.60]	<0.001	321.20[267.70,380.70]	321.20[273.60,380.70]	<0.001
	Assumed deceased	321.20[267.70,386.60]	350.90[291.50,410.40]	350.90[285.50,422.30]		339.00[285.50,416.40]	333.10[279.60,404.50]	

Sodium(mmol/L)	Assumed alive	139.00[138.00,141.00]	139.00[138.00,141.00]	139.00[137.00,141.00]	<0.001	140.00[138.00,141.00]	140.00[138.00,141.00]	0.561
	Assumed deceased	139.00[138.00,141.00]	140.00[138.00,141.00]	139.00[137.00,141.00]		139.60[137.30,141.00]	139.40[138.00,141.00]	
Potassium(mmol/L)	Assumed alive	4.00[3.80,4.20]	4.00[3.80,4.20]	4.08[3.80,4.30]	<0.001	4.00[3.80,4.22]	4.00[3.80,4.30]	<0.001
	Assumed deceased	4.10[3.89,4.33]	4.10[3.90,4.40]	4.20[3.90,4.47]		4.21[3.99,4.44]	4.20[3.90,4.40]	
Chloride(mmol/L)	Assumed alive	104.00[102.00,105.00]	103.00[101.00,105.00]	102.00[100.00,104.00]	<0.001	103.00[101.31,105.00]	104.00[102.00,105.00]	<0.001
	Assumed deceased	103.00[101.00,105.00]	103.00[101.00,105.00]	102.00[99.70,104.00]		102.30[100.00,104.90]	102.39[100.10,104.92]	
Transferrin Saturation (%)	Assumed alive	24.60[18.00,32.90]	23.30[17.70,30.00]	23.21[17.00,29.19]	<0.001	22.67[17.36,28.99]	24.00[18.30,30.65]	0.573
	Assumed deceased	24.90[18.50,31.65]	23.00[17.40,30.12]	22.10[16.60,27.03]		22.80[16.60,29.50]	24.00[18.30,30.47]	
Globulin (g/L)	Assumed alive	28.00[26.00,31.00]	29.00[26.00,32.00]	30.00[27.00,33.00]	<0.001	30.00[27.00,34.00]	27.00[25.00,30.00]	<0.001
	Assumed deceased	29.00[26.00,32.00]	29.00[27.00,33.00]	30.00[27.00,34.00]		31.00[28.00,35.00]	30.00[27.00,33.00]	
alpha-carotene(umol/L)	Assumed alive	0.05[0.03,0.10]	0.05[0.03,0.10]	0.04[0.02,0.08]	<0.001	0.05[0.02,0.10]	0.08[0.04,0.13]	0.001
	Assumed deceased	0.05[0.02,0.09]	0.05[0.03,0.08]	0.04[0.02,0.07]		0.05[0.02,0.09]	0.06[0.03,0.10]	
trans-beta-carotene(umol/L)	Assumed alive	0.22[0.13,0.41]	0.23[0.13,0.41]	0.18[0.09,0.34]	<0.001	0.27[0.15,0.48]	0.37[0.22,0.56]	0.171
	Assumed deceased	0.25[0.13,0.48]	0.24[0.14,0.41]	0.20[0.11,0.35]		0.31[0.17,0.53]	0.33[0.19,0.56]	
cis-beta-carotene(umol/L)	Assumed alive	0.01[0.01,0.02]	0.01[0.01,0.02]	0.01[0.01,0.02]	<0.001	0.02[0.01,0.03]	0.02[0.01,0.03]	0.344
	Assumed deceased	0.02[0.01,0.03]	0.01[0.01,0.03]	0.01[0.01,0.02]		0.02[0.01,0.03]	0.02[0.01,0.03]	
beta-cryptoxanthin(umol/L)	Assumed alive	0.13[0.09,0.21]	0.12[0.07,0.20]	0.10[0.06,0.17]	<0.001	0.24[0.07,0.48]	0.16[0.10,0.26]	0.001
	Assumed deceased	0.12[0.07,0.19]	0.11[0.07,0.19]	0.11[0.06,0.16]		0.13[0.07,0.19]	0.14[0.09,0.21]	
Lutein and zeaxanthin(umol/L)	Assumed alive	0.25[0.18,0.36]	0.27[0.19,0.39]	0.26[0.18,0.37]	<0.001	0.33[0.19,0.45]	0.30[0.21,0.42]	0.094
	Assumed deceased	0.25[0.17,0.35]	0.24[0.17,0.34]	0.23[0.17,0.33]		0.25[0.18,0.35]	0.27[0.19,0.37]	
trans-lycopene(umol/L)	Assumed alive	0.42[0.31,0.56]	0.39[0.27,0.55]	0.35[0.25,0.51]	<0.001	0.32[0.25,0.41]	0.37[0.25,0.53]	<0.001
	Assumed deceased	0.32[0.20,0.46]	0.31[0.20,0.45]	0.30[0.18,0.45]		0.29[0.19,0.39]	0.31[0.19,0.46]	
VitaminD(nmol/L)	Assumed alive	63.10[49.20,77.70]	54.40[40.90,68.20]	54.40[39.80,68.20]	<0.001	44.40[30.20,61.10]	61.10[49.20,73.00]	0.001
	Assumed deceased	61.10[45.90,75.30]	56.30[43.40,70.54]	51.90[39.70,68.20]		58.70[44.40,70.79]	61.10[47.35,75.40]	
Creatine Phosphokinase (CPK) (IU/L)	Assumed alive	105.00[73.00,162.00]	115.00[79.00,180.00]	100.00[67.00,156.00]	<0.001	103.68[71.00,168.50]	97.00[68.00,140.00]	0.001

	Assumed deceased	95.28[62.00,140.00]	90.00[65.00,123.24]	79.12[55.00,131.36]		83.00[61.20,128.00]	89.97[61.00,128.14]	
Direct HDL-Cholesterol(mmol/L)	Assumed alive	1.37[1.11,1.66]	1.27[1.06,1.55]	1.16[0.98,1.40]	<0.001	1.27[1.09,1.55]	1.37[1.14,1.71]	0.009
	Assumed deceased	1.40[1.11,1.73]	1.29[1.06,1.55]	1.16[0.98,1.45]		1.29[1.06,1.71]	1.32[1.09,1.63]	
Direct HDL-Cholesterol (mg/dL)	Assumed alive	52.00[43.00,63.00]	49.00[41.00,59.00]	44.00[38.00,54.00]	<0.001	49.00[41.00,60.00]	53.00[44.00,66.00]	0.002
	Assumed deceased	53.00[42.00,66.00]	49.00[40.00,59.00]	44.00[37.00,54.00]		49.00[40.00,62.00]	51.00[42.00,62.00]	
Total Cholesterol(mmol/L)	Assumed alive	4.91[4.29,5.64]	5.20[4.55,5.92]	4.71[3.98,5.59]	<0.001	5.10[4.31,5.97]	5.15[4.47,5.90]	0.11
	Assumed deceased	5.22[4.50,5.95]	5.07[4.37,5.90]	4.84[4.09,5.64]		5.15[4.34,5.95]	5.28[4.60,5.92]	
Cholesterol, total (mmol/L)	Assumed alive	4.94[4.29,5.64]	5.20[4.53,5.90]	4.71[3.96,5.56]	<0.001	5.07[4.29,5.90]	5.12[4.40,5.82]	0.501
	Assumed deceased	5.20[4.47,5.95]	5.04[4.34,5.87]	4.76[4.03,5.56]		5.04[4.29,5.84]	5.17[4.53,5.84]	
Triglyceride (mg/dL)	Assumed alive	95.00[67.00,140.00]	114.00[81.00,167.00]	140.00[95.00,198.00]	<0.001	116.00[81.00,158.92]	111.00[78.00,162.00]	<0.001
	Assumed deceased	117.00[83.00,166.28]	132.00[93.00,181.00]	145.36[99.00,233.17]		118.00[81.79,178.08]	134.00[93.41,185.00]	
Triglyceride (mmol/L)	Assumed alive	1.07[0.76,1.58]	1.29[0.91,1.89]	1.58[1.07,2.23]	<0.001	1.31[0.91,1.79]	1.25[0.88,1.83]	<0.001
	Assumed deceased	1.32[0.94,1.87]	1.49[1.05,2.04]	1.64[1.12,2.63]		1.33[0.93,2.01]	1.51[1.05,2.08]	
LDL-cholesterol(mmol/L)	Assumed alive	2.90[2.33,3.49]	3.10[2.51,3.72]	2.59[2.02,3.28]	<0.001	2.92[2.38,3.60]	3.00[2.38,3.57]	0.315
	Assumed deceased	2.97[2.40,3.70]	2.90[2.33,3.59]	2.49[1.91,3.31]		2.77[2.22,3.59]	3.03[2.48,3.62]	
Glycohemoglobin(%)	Assumed alive	5.20[5.00,5.40]	5.80[5.70,6.00]	6.90[6.40,8.10]	<0.001	5.90[5.50,6.60]	5.60[5.40,6.00]	<0.001
	Assumed deceased	5.30[5.10,5.50]	5.90[5.70,6.00]	7.00[6.50,8.10]		5.70[5.40,6.30]	5.60[5.30,6.00]	
Glucose, serum (mmol/L)	Assumed alive	4.88[4.61,5.27]	5.33[4.94,5.83]	7.33[5.88,9.94]	<0.001	5.55[5.11,6.44]	5.33[4.94,6.00]	<0.001
	Assumed deceased	5.05[4.72,5.50]	5.50[5.00,6.11]	7.70[5.88,10.41]		5.55[5.05,6.56]	5.38[4.94,6.05]	
Glucose, plasma (mg/dL)	Assumed alive	95.40[89.50,101.30]	105.00[98.00,113.00]	141.00[119.00,179.36]	<0.001	106.00[98.00,123.65]	103.00[95.62,113.00]	0.019
	Assumed deceased	97.40[92.00,105.00]	107.00[98.90,116.60]	147.00[120.00,186.95]		106.94[94.19,127.66]	103.95[95.78,116.34]	
Plasma glucose: SI(mmol/L)	Assumed alive	5.30[4.97,5.63]	5.83[5.44,6.27]	7.83[6.61,9.97]	<0.001	5.88[5.44,6.86]	5.72[5.31,6.27]	0.018
	Assumed deceased	5.41[5.11,5.83]	5.94[5.49,6.48]	8.16[6.66,10.38]		5.94[5.23,7.09]	5.77[5.32,6.46]	
C-peptide:SI(nmol/L)	Assumed alive	0.65[0.49,0.88]	0.95[0.74,1.26]	1.05[0.77,1.30]	<0.001	0.95[0.73,1.12]	0.82[0.60,1.04]	0.114
	Assumed deceased	0.74[0.56,1.02]	1.03[0.77,1.38]	1.10[0.82,1.52]		0.94[0.61,1.27]	0.81[0.61,1.14]	

Insulin(uU/mL)	Assumed alive	8.23[5.46,12.78]	11.86[7.33,18.62]	14.12[8.84,23.68]	<0.001	12.02[8.20,17.43]	9.83[6.30,15.01]	0.001
	Assumed deceased	8.37[5.77,12.38]	11.41[7.04,18.33]	13.71[7.78,22.47]		10.22[6.52,15.20]	10.11[7.26,16.23]	
Insulin:SI(pmol/L)	Assumed alive	53.16[38.58,75.44]	86.49[56.40,119.88]	106.14[58.27,149.57]	<0.001	74.31[65.50,117.23]	61.81[42.40,88.56]	0.033
	Assumed deceased	53.82[38.58,72.11]	75.33[51.63,113.21]	111.93[65.64,178.06]		63.93[42.24,101.40]	58.06[42.67,91.89]	
Two Hour Glucose(OGTT)(mg/dL)	Assumed alive	99.00[82.00,120.00]	123.00[99.00,155.68]	273.75[200.00,324.99]	<0.001	139.67[118.00,192.22]	117.00[95.00,154.00]	<0.001
	Assumed deceased	122.00[97.00,152.00]	145.00[112.32,185.00]	252.70[193.18,311.31]		147.64[104.66,190.19]	139.23[114.11,166.85]	

Supplementary Table SIX. Correlation analysis between common differential indicators and T2D, MCI

Terms	T2D		MCI	
	p-value	r	p-value	r
Glycohemoglobin(%)	<2.2e-16	0.8659055	<2.2e-16	0.2952395
Albumin, urine (ug/mL)	<2.2e-16	0.09745661	<2.2e-16	0.1665703
Creatinine, urine (mg/dL)	<2.2e-16	-0.04789154	8.88E-05	0.06401949
White blood cell count (1000 cells/uL)	<2.2e-16	0.1637027	1.39E-07	0.1793184
Lymphocyte percent(%)	0.0002152	0.0333719	3.04E-05	0.1167831
Lymphocyte number (1000 cells/uL)	<2.2e-16	0.2464018	2.05E-12	0.2026851
Segmented neutrophils num (1000 cells/uL)	<2.2e-16	0.1080116	5.28E-06	0.1336363
Red cell distribution width (%)	<2.2e-16	0.4641267	4.35E-14	0.2154358
Mean platelet volume (fL)	<2.2e-16	0.1681349	3.33E-10	0.212342
Folate, serum (nmol/L)	<2.2e-16	-0.2559525	3.06E-13	-0.3079924
Homocysteine(umol/L)	<2.2e-16	-0.1516209	0.008253	0.05980389
Folate, RBC (nmol/L RBC)	<2.2e-16	0.3634443	<2.2e-16	-0.1335958
Cotinine, Serum (ng/mL)	1.93E-14	-0.07875175	8.95E-13	0.2024187
gamma-tocopherol (umol/L)	<2.2e-16	0.3379875	1.12E-06	0.2623597
Retinol (umol/L)	<2.2e-16	0.226879	1.87E-08	-0.2314312
Alkaline Phosphatase (ALP) (U/L)	<2.2e-16	0.3653565	5.92E-15	0.3782906
Blood urea nitrogen (mmol/L)	<2.2e-16	0.4859246	1.00E-08	0.1939416
Gamma Glutamyl Transferase (GGT) (U/L)	<2.2e-16	0.3364554	8.97E-12	0.1932734
Glucose, serum (mmol/L)	<2.2e-16	0.4968659	3.12E-15	0.2533376
Iron (umol/L)	<2.2e-16	-0.1501646	3.17E-06	-0.1042328
Lactate Dehydrogenase (LDH) (U/L)	<2.2e-16	0.2521859	4.19E-11	0.1713453
Uric acid (umol/L)	<2.2e-16	0.3598981	1.73E-10	0.181588
Creatinine (umol/L)	<2.2e-16	0.3805017	<2.2e-16	-0.3096464

Potassium (mmol/L)	<2.2e-16	0.2247851	<2.2e-16	0.2602502
Globulin (g/L)	<2.2e-16	0.3730052	<2.2e-16	0.4330258
trans-lycopene (umol/L)	<2.2e-16	-0.2466139	5.16E-06	-0.2627177
Vitamin D (nmol/L)	<2.2e-16	-0.3782822	2.81E-09	-0.3838735
Direct HDL-Cholesterol (mg/dL)	<2.2e-16	-0.348474	1.12E-10	-0.1911604
Plasma glucose: SI(mmol/L)	<2.2e-16	0.6271029	4.05E-10	0.2789504
C-peptide: SI(nmol/L)	<2.2e-16	0.5505922	0.004511	0.165761
Insulin: SI(pmol/L)	0.007508	-0.08075077	0.01428	-0.143499
Two Hour Glucose(OGTT) (mg/dL)	<2.2e-16	0.6527652	0.001235	0.215967

Supplementary Table SX. MR analysis of indicators and T2D, MCI

Exposure	Outcome	MR method	Numbers of SNPs	β	SE	OR (95% CI)	P value for association	P value for heterogeneity test	P value for MR-Egger intercept	P value for MR-PRESSO global test	Outlier
Red cell distribution width	Type 2 diabetes	MR Egger		-0.0106	0.0109	0.9895(0.9686,1.0108)	0.3442	0.7213	0.2649	0.6827	NA
		Weighted median		0.0004	0.0055	1.0004(0.9897,1.0111)	0.9456				
		Inverse variance weighted	18	0.0012	0.0037	1.0012(0.9940,1.0085)	0.7448				
		Simple mode		0.0012	0.0077	1.0012(0.9863,1.0164)	0.8777				
		Weighted mode		0.0012	0.0056	1.0012(0.9903,1.0122)	0.8329				
	Alzheimer's disease	MR Egger		0.0060	0.0076	1.0061(0.9912,1.0212)	0.4381	0.8556	0.4906	0.8943	NA
		Weighted median		0.0006	0.0045	1.0006(0.9919,1.0093)	0.8988				
		Inverse variance weighted	20	0.0012	0.0032	1.0012(0.9949,1.0076)	0.7134				
		Simple mode		0.0017	0.0062	1.0017(0.9896,1.0139)	0.7891				
		Weighted mode		0.0017	0.0050	1.0017(0.9918,1.0116)	0.7427				
Folate	Type 2 diabetes	MR Egger		-0.0200	0.0550	0.9802(0.8800,1.0917)	0.7231	0.3461	0.8517	0.4160	NA
		Weighted median		-0.0237	0.0306	0.9765(0.9197,1.0369)	0.4378				
		Inverse variance weighted	12	-0.0105	0.0219	0.9896(0.9480,1.0330)	0.6331				
		Simple mode		-0.0345	0.0538	0.9661(0.8694,1.0736)	0.5351				
		Weighted mode		-0.0527	0.0464	0.9486(0.8662,1.0389)	0.2795				
	Alzheimer's disease	MR Egger		-0.0207	0.0307	0.9795(0.9223,1.0402)	0.5120	0.1968	0.1714	0.1770	NA
		Weighted median		0.0093	0.0172	1.0094(0.9759,1.0440)	0.5884				
		Inverse variance weighted	14	0.0191	0.0144	1.0193(0.9911,1.0484)	0.1821				
		Simple mode		0.0376	0.0280	1.0383(0.9829,1.0968)	0.2021				
		Weighted mode		0.0076	0.0176	1.0076(0.9735,1.0429)	0.6728				
Gamma tocopherol	Type 2 diabetes	MR Egger	67	0.0400	0.0574	1.0408(0.9301,1.1647)	0.4881	0.0044	0.2814	0.0030	NA
		Weighted median		-0.0300	0.0489	0.9705(0.8818,1.0680)	0.5396				

			Inverse variance weighted		-0.0113	0.0325	0.9887(0.9276,1.0538)	0.7274				
			Simple mode		-0.1620	0.0969	0.8504(0.7033,1.0284)	0.0994				
			Weighted mode		-0.0323	0.0515	0.9682(0.8752,1.0710)	0.5321				
			MR Egger		0.0029	0.0394	1.0029(0.9284,1.0835)	0.9410				
			Weighted median		0.0003	0.0366	1.0003(0.9311,1.0748)	0.9925				
	Alzheimer's disease		Inverse variance weighted	65	0.0189	0.0251	1.0191(0.9702,1.0705)	0.4507	0.0930	0.5989	0.1120	NA
			Simple mode		0.0313	0.0689	1.0318(0.9015,1.0685)	0.6513				
			Weighted mode		-0.0021	0.0349	0.9979(0.9319,1.0685)	0.9514				
			MR Egger		0.0496	0.0434	1.0508(0.9652,1.1441)	0.2553				
			Weighted median		-0.0009	0.0321	0.9991(0.9381,1.0640)	0.9777				
	Type 2 diabetes		Inverse variance weighted	121	-0.0048	0.0246	0.9952(0.9483,1.0445)	0.8458	5.46E-08	0.1314	<0.0003	rs12133641 rs645040
			Simple mode		-0.0574	0.0655	0.9442(0.8304,1.0735)	0.3822				
			Weighted mode		0.0186	0.0339	1.0188(0.9553,1.0887)	0.5837				
Alkaline Phosphatase			MR Egger		-0.0120	0.0252	0.9881(0.9404,1.0382)	0.6352				
			Weighted median		-0.0020	0.0231	0.9980(0.9538,1.0442)	0.9312				
	Alzheimer's disease		Inverse variance weighted	132	0.0102	0.0159	1.0103(0.9793,1.0422)	0.5197	0.0624	0.2598	0.0620	NA
			Simple mode		-0.0082	0.0368	0.9918(0.9228,1.0659)	0.8233				
			Weighted mode		0.0020	0.0213	1.0020(0.9610,1.0448)	0.9240				
			MR Egger		-0.2062	0.3449	0.8136(0.4139,1.5995)	0.5510				
			Weighted median		-0.1807	0.1843	0.8347(0.5816,1.1979)	0.3269				
	Type 2 diabetes		Inverse variance weighted	121	-0.3246	0.1432	0.7228(0.5459,0.9571)	0.0234	7.78E-11	0.7064	<0.0003	NA
			Simple mode		0.2656	0.6491	1.3042(0.3654,4.6544)	0.6832				
			Weighted mode		0.2073	0.4728	1.2304(0.4871,3.1083)	0.6618				
Blood urea nitrogen			MR Egger		-0.3150	0.2217	0.7298(0.4726,1.1270)	0.1577				
	Alzheimer's disease		Weighted median	134	-0.1152	0.1508	0.8912(0.6631,1.1977)	0.4451	0.0794	0.0816	0.0683	NA
			Inverse variance weighted		0.0318	0.1012	1.0323(0.8465,1.2588)	0.7535				

		Simple mode		0.1130	0.3045	1.1197(0.6164,2.0338)	0.7111				
		Weighted mode		-0.0779	0.1955	0.9251(0.6306,1.3572)	0.6911				
		MR Egger		0.0554	0.0422	1.0570(0.9732,1.1481)	0.1910				
		Weighted median		0.0378	0.0283	1.0385(0.9825,1.0976)	0.1813				
	Type 2 diabetes	Inverse variance weighted	118	0.0542	0.0215	1.0556(1.0122,1.1010)	0.0116	1.27E-07	0.9716	<0.0003	rs28360467 rs4298983
		Simple mode		0.1900	0.0724	1.2093(1.0493,1.3936)	0.0098				
		Weighted mode		0.0556	0.0361	1.0572(0.9849,1.1347)	0.1264				
Gamma Glutamyl Transferase		MR Egger		-0.0137	0.0195	0.9863(0.9494,1.0247)	0.4816				
		Weighted median		-0.0043	0.0167	0.9957(0.9637,1.0288)	0.7975				
	Alzheimer's disease	Inverse variance weighted	120	-0.0116	0.0124	0.9885(0.9647,1.0129)	0.3516	0.0010	0.8842	0.0013	NA
		Simple mode		-0.0232	0.0327	0.9770(0.9164,1.0416)	0.4781				
		Weighted mode		-0.0191	0.0146	0.9810(0.9535,1.0094)	0.1912				
		MR Egger		0.0568	0.0297	1.0584(0.9986,1.1217)	0.0580				
		Weighted median		0.0322	0.0255	1.0328(0.9824,1.0857)	0.2058				
	Type 2 diabetes	Inverse variance weighted	124	0.0084	0.0194	1.0085(0.9709,1.0475)	0.6637	3.77E-06	0.0351	<0.0003	rs9895661
		Simple mode		0.0445	0.0505	1.0455(0.9469,1.1543)	0.3808				
		Weighted mode		0.0233	0.0258	1.0236(0.9732,1.0766)	0.3667				
Urea Acid		MR Egger		-0.0285	0.0132	0.9719(0.9471,0.9975)	0.0336				
		Weighted median		-0.0193	0.0132	0.9809(0.9558,1.0066)	0.1430				
	Alzheimer's disease	Inverse variance weighted	116	-0.0150	0.0092	0.9851(0.9675,1.0030)	0.1024	0.2753	0.1621	0.2540	NA
		Simple mode		0.0032	0.0203	1.0032(0.9640,1.0440)	0.8758				
		Weighted mode		-0.0181	0.0116	0.9821(0.9600,1.0047)	0.1219				
		MR Egger		-0.0323	0.1540	0.9682(0.7159,1.3094)	0.8343				
		Weighted median		-0.0340	0.0522	0.9666(0.8726,1.0708)	0.5155				rs9895661
	Type 2 diabetes	Inverse variance weighted	72	-0.0795	0.0430	0.9236(0.8490,1.0047)	0.0642	1.64961E-06	0.7507	<0.0003	rs11924016
		Simple mode		0.0798	0.1152	1.0831(0.8641,1.3576)	0.4908				
Creatinine		MR Egger		-0.0323	0.1540	0.9682(0.7159,1.3094)	0.8343				
		Weighted median		-0.0340	0.0522	0.9666(0.8726,1.0708)	0.5155				rs9895661
	Type 2 diabetes	Inverse variance weighted	72	-0.0795	0.0430	0.9236(0.8490,1.0047)	0.0642	1.64961E-06	0.7507	<0.0003	rs11924016
		Simple mode		0.0798	0.1152	1.0831(0.8641,1.3576)	0.4908				

				Weighted mode	0.0432	0.0900	1.0442(0.8753,1.2456)	0.6326				
				MR Egger	-0.0373	0.1472	0.9634(0.7219,1.2856)	0.8005				
				Weighted median	0.0465	0.0537	1.0476(0.9429,1.1639)	0.3865				
	Alzheimer's disease	Inverse variance weighted	76		0.0465	0.0409	1.0476(0.9669,1.1351)	0.2558	0.0113	0.5549	0.0153	NA
				Simple mode	0.1584	0.1478	1.1716(0.8771,1.5652)	0.2871				
				Weighted mode	0.1411	0.1459	1.1516(0.8651,1.5329)	0.3365				
				MR Egger	0.0219	0.0427	1.0222(0.9400,1.1115)	0.6297				
				Weighted median	0.0020	0.0104	1.0020(0.9818,1.0227)	0.8450				
	Type 2 diabetes	Inverse variance weighted	7		0.0074	0.0083	1.0075(0.9912,1.0240)	0.3714	0.2963	0.7426	0.4580	NA
				Simple mode	0.0022	0.0173	1.0022(0.9689,1.0366)	0.9036				
				Weighted mode	0.0016	0.0168	1.0016(0.9692,1.0351)	0.9266				
				MR Egger	-0.0030	0.0214	0.9970(0.9561,1.0396)	0.8919				
				Weighted median	0.0071	0.0067	1.0071(0.9940,1.0204)	0.2890				
	Alzheimer's disease	Inverse variance weighted	8		0.0053	0.0054	1.0054(0.9948,1.0160)	0.3212	0.0794	0.0816	0.0683	NA
				Simple mode	0.0066	0.0092	1.0066(0.9886,1.0250)	0.4968				
				Weighted mode	0.0079	0.0085	1.0079(0.9912,1.0249)	0.3866				
				MR Egger	-0.0971	0.0504	0.9074(0.8221,1.0016)	0.0567				
				Weighted median	-0.0687	0.0403	0.9336(0.8627,1.0103)	0.0881				
	Type 2 diabetes	Inverse variance weighted	105		-0.0488	0.0297	0.9524(0.8986,1.0094)	0.1003	0.0013	0.2383	0.0017	NA
				Simple mode	-0.0560	0.0939	0.9455(0.7866,1.1366)	0.5523				
				Weighted mode	-0.0700	0.0411	0.9324(0.8602,1.0107)	0.0920				
				MR Egger	-0.0167	0.0303	0.9835(0.9268,1.0436)	0.5830				
				Weighted median	-0.0174	0.0274	0.9828(0.9314,1.0370)	0.5258				
	Alzheimer's disease	Inverse variance weighted	109		-0.0106	0.0174	0.9894(0.9563,1.0238)	0.5420	0.7138	0.8073	0.7573	NA
				Simple mode	0.0310	0.0469	1.0314(0.9409,1.1308)	0.5105				
				Weighted mode	-0.0160	0.0286	0.9841(0.9305,1.0408)	0.5770				

Supplementary Table SXI. Gene list

	Gene	Number
ND-T2D up-regulated Degs	<p>SLC9A3, RPS4Y1, B2M, NDUFB7, EIF5, ADAM15, GNAQ, S100A9, PTPRC, RP2, IREB2, HLA-A, GABPA, EIF1AY, HERC3, EEF1A1, JAK1, UBE2E3, ABHD3, CASC4, CHURC1, PRKY, STXBP3, FBXO9, LYPLA1, MORC3, SLC23A2, EFNA4, TRIM23, MTHFS, LRRN3, ITGA4, CNTNAP2, PDE4D, GNG10, KCNJ4, PPM1A, PRDX3, MCTP2, GNG2, DMXL2, APP, CLASP2, DCK, TMF1, CSF2RB, SLC4A1, SNCA, HEMGN, MICAL2, FBXO3, WDR47, ADAM10, CAPN7, MBNL3, TNFAIP8, FBXO7, EPC1, CCNG2, RBL2, CA2, ENPP4, ITPR2, TAF2, RAB4A, HLA-DQA1, PIK3CB, AGPAT5, SLC25A36, MTM1, CACYBP, HLA-DQB1, FUBP3, ARL6IP6, OTUD4, CD2AP, ORM1, DR1, ESPN, NAT1, RWDD3, BTF3L4, SDHD, CASP8, ARRD3, THBS1, IRX3, MAP7, AKAP10, COMMD8, CPEB4, CRLF3, ARF4, OSBP2, RSRC1, CSNK1G3, E2F5, ADIPOR1, HIF1A, PIK3C2A, SDCBP, GPR146, YPEL2, HIST1H3F, STEAP4, JMJD1C, NUP160, SCML1, CCNT2, AFF4, PPWD1, RPS18, MCEE, BANK1, ZNF217, RPE, CHORDC1, TRIM58, CD58, TM6SF1, KLHL20, BTBD1, RAB5A, CDC42, PDE3B, POLR2J2, HIST3H2A, GNPDA2, CPEB2, ITGAV, STRN3, EP300, XK, DNAJA4, HPS3, LRRK2, CCNC, CHMP1B, SMARCAD1, RPS12, RGS18, OSBPL10, TSPAN13, BET1, ANAPC1, LIPT1, CD9, COMMD10, CHMP2B, MDFIC, PDE7A, MORF4L2, TNRC6C, G3BP2, NBR1, CLK1, CACNA2D3, CXCR4, DPM1, TTF2, ATP7A, CD46, PTPN12, NUDT21, DYRK1A, PHC3, P2RY13, CHI3L1, TIA1, ID3, RPGR, FNDC3A, GPR34, CCNDBP1, SNX10, STX7, FNTA, SPAG9, NFIA, SESN3, RPL7, AASDHPPT, RCHY1, BTF3, AP3S1, ADCY7, STAG2, PCNP, MGAM, GLCCI1, TSC22D2, YTHDC2, FBLN2, NR2C2, GIT2, STT3B, OGFRL1, RCN2, TMEM106B, DDX21, LCP2, ITGB3BP, NRBF2, SRI, USP22, CD55, ARHGAP12, FCER1A, RAB3IL1, GNG11, RPS6KA5, DPYD, TGFB2, TMEM41A, ATG4B, ZNF654, PIGB, ZDHHC2, RPL41, ACP5, SOCS4, PSMD10, UCHL5, LGALS3, TAGAP, CNOT7, PLAG1, YME1L1, ANKRA2, SLC16A10, CYB5R4, KLRC1</p>	232
ND-T2D down-regulated Degs	<p>KPTN, ST14, MAP2K7, MT2A, CACNA1I, NTHL1, GTF3C5, TTC12, ILVBL, SLC22A17, ZNF282, CEP164, RIMS3, RNF40, FAM98C, GZMH, RAB4B, MVD, TMC6, ALDH16A1, TRMU, SMARCD3, GHRL, MUS81, PLEKHB1, SPIN1, CIC, MRPL28, PARP14, DCTN5, ARMC7, PPP1R13B, ITGA2B, RRAS, OAS1, CAPNS1, VAC14, RPS6KA4, YPEL4, NUAK1, GIPC1, TUBGCP2, TMEM62, TSEN54, REXO1, WDR5, CHD3, POLD2, IL2RG, GPR68, CROCC, SLC25A11, CEP250, INPPL1, NOXA1, DDX41, GSN, MPO, OASL, GPI, CHRNA10, OS9, IKBKE, WDR46, TTYH3, PRKCSH, SLC5A3, ZNF408, MAP3K11, SLC25A1, DYSF, RGL1, DRD3, ADCK5, DAXX, GLYCTK, DRG2, ABCA2, MFN2, OAS2, MVP, AGTRAP, NCOR2, DDB2, S100A13, FOSB, PRKD2, TJP3, NEK6, WDR25, PEX26, PELP1, CASP5, RNASET2, SIL1, CBFA2T3, FOXD2, CLEC4D, BOP1, SMG7, RNF157, RSAD1, CD300LB, MT1E, ITGAL, LAP3, VPS39, SH3PX2A, RGPD1, SIGLEC5, DPP7, ANKDD1A, CACNA1E, LRRC45, GMIP, PPP2R5D, ABHD14B, SLC9A8, DLG4, TBRG4, HIFX, ENO2, PKN1, TNFAIP6, POU2F1, TSPYL2, HP, RTP4, BAK1, ANKRD33, POLD1, POLRMT, POU2F2, MX2, TUBG2, PEX14, FAM20C, ENTPD6, CTSW, CSRP1, SERGEF, DDX6, ABCF3, DTX3, RIN3, PAFAH1B3, PYGO2, OSBPL5, VPS13D,</p>	320

	SH3TC1, SFXN5, TBC1D17, MC1R, TCN1, IFIT5, CD3E, HEY1, H1F0, SFI1, DBP, CROT, CXCR3, TRIM46, COL9A2, ZDHHC24, AATF, CRTC2, COX15, AGPAT4, BCL7C, KIAA0100, HAPLN3, ARHGAP10, OTUD5, MYO1G, SHKBP1, PMF1, BATF2, CDKN1A, APOL3, SEMA4A, ICAM1, CITED4, PLXNB2, NCR3, MAN2B1, ITM2C, SLC26A8, GSS, HRAS, GPAA1, RNF31, DNHD1, MAN2C1, PDZD4, LAMP3, MBD3, SUPT5H, GMPPA, DGCR8, CCDC22, ZNF683, NAGA, ATXN3, B3GAT3, MOV10, ATG16L2, LRP1, SIRPB1, RRBP1, AHNAK, PTPN6, TFEB, SSBP3, AKAP8L, RTBDN, KIF13B, COL6A2, RAB11FIP5, MRPL2, EPHB1, SAMD9L, GIT1, LAIR2, ASPSCR1, GDPD5, ZNF580, SUPT6H, RPIA, RPUSD1, TRAF2, SCO2, CD320, PLOD3, UQCRC1, SP1, UNC5C, ENG, MXRA7, DLGAP4, DBN1, ATP13A1, EIF2AK2, TTC21A, MARCO, TBCD, SLC4A2, G6PC3, IFIT1, VPS4A, MGRN1, HLA-G, ABCD1, NDUFB11, TMEM107, RNF26, CAPN3, SGTA, GTF2E1, VPS18, LAG3, IFI35, PI3, PDGFRB, TBC1D10B, CHTF18, HAPLN2, SYMPK, TOR2A, RAB11FIP4, EPHB6, PARP12, PRSS21, HERC6, HES4, DCP1B, EPSTI1, GADD45G, NCF4, FGFR1, PLXNA3, PCBP4, ERBB2, XIST, LGALS9, TAF6L, FANCG, QDPR, ASGR2, PDK4, FAM78A, ACADS, ARFGAP1, VAMP5, OGFR, APOL1, OAS3, IFI44, APOBEC3D, HERC5, CALCOCO1, IDH2, RFNG, LGALS3BP, LY6E, RNASE3, MX1, IRF7, STK11, TNFSF12, PRMT7, OTOF, SERPING1, DYNLRB1, RSAD2, RAMP2, IFI44L, MMAB, HBG1, ZDHHC8	
MR SNPs Gene	CSGALNACT1, BICRA, Y_RNA, GLULP3, MARCHF8, ETV5, CETP, PDXDC1, LOC105372112, LOC105379311, NUP93, ABCA1, LINC02702, DNAH10, GPAM, LOC105375091, APOA1-AS, LOC105371632, RGS17, RPL35AP19, RPL30P9, TET2-AS1, BUD13, LPL, ALDH1A2, KNTC1, TP53BP1, YDJC, CYP26A1, LIPC, GALNT2, STARD3NL, APOC3, BBS2, PRAM1, NLRC5, TRIB1AL, IRF2BP1, APOC1P1, SLC12A3, NUP93-DT, AFF1, GNAO1, TTC39B, PGS1, NFIA, TRIP11, PLTP, LOC107984372, SCARB1, GIMAP6, SNX13, CELSR2, LOC105370050, SIK3, RPL19P16, PLEKHG3, PSME3IP1, ZNF664, PSKH1, DOCK6, CYCSP55, LIPG, LOC105369688, SEC14L4, ZPR1, STAB1, HERPUD1, FNBP1L, UBASH3B, RRN3, LINC02151, LOC105370044, RNA5SP224, SNTB1, INTS10, NIP7P1, TRGC2, FOXA3, APOC4, LOC124903363, PCIF1, WDR11, NUP50P1, RSPRY1, ZNF664-RFLNA, LIPC-AS1, LOC105371287, KRT18P9	89
GeneCards Gene	APOA1, ABCA1, CETP, LIPC, LCAT, APOE, LPL, APOB, APOC3, SCARB1, ALB, APOA1-AS, ANGPTL3, LDLR, INS, NIPSNAP3B, PPARG, CRP, APOA5, PON1, TP53, POLR2A, TNF, ADIPOQ, APOA2, IL6, LIPG, GBA1, LINC01672, POLR3A, LEP, GALNT2, APOA4, SLC12A4, LPA, PLTP, PPARA, CREB3L3, SMPD1, POLD1, MTPP, POLG2, F2, IGF1, ACE, IL10, ABCG5, AR, LMNA, APOC2, LIPE, EGFR, CBS, PCSK9, SERPINE1, PTEN, F3, FBN1, AKT1, ESR1, CERNA3, HNF1A, ABCB11, IL1B, LIPA, TLR4, IL4, DOCK7, BRCA2, MAPK1, RB1, GPT, CTNNB1, IFNG, NFKB1, FAS, H19, SELP, APP, CFTR, TMX2-CTNND1, INSR, CAV1, HMGCR, SOD1, NF1, TGFB1, MIR7-3HG, LEPR, PSEN1, VEGFA, PTPN11, NR1H2, PLAT, VDR, ICAM1, NPC1, MECP2, SLC25A13, CXCL8, JUN, FGFR2, ABCG8, SELE, ABCB1, CTSD, PRKN, FGFR1, KDR, NOS3, IL13, ABCG1, EP300, CD36, ADRB2, TTR, IFT74, CSNK2A1, F8, SP1, MSH6, F10, SPP1, STAT3, BBS1, SNCA, BCL2, IRS1, SCARB2, XIST, POMC, CEP290, BBS7, MMP2, ABCA4, BBS2, HBB, IDUA, LOC106627981, SHBG, MAPK14, RELA, COL5A1, PLCG1, RAF1, MTHFR, CLU, IFT172, SERPINC1,	2598

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Supplementary Table SXII. Baseline characteristics of MFT samples

	Ctrl	T2D	<i>P</i>
	n=23	n=17	
Age	37 [32, 45]	40 [35, 52.5]	0.2654
Weight (kg)	78.5 [73.3, 88.6]	86.1 [72.55, 98.8]	0.4685
BMI (kg/m ²)	28.83 [26.25, 32.29]	31.05 [27.47, 38.46]	0.2108
FBG (mmol/L)	4.8 [4.22, 5.11]	5.44 [4.88, 6.125]	0.0042
Total cholesterol (mmol/L)	4.53 [4.09, 5.865]	5.155 [4.88, 5.713]	0.1447
Triglyceride (mmol/L)	1.19 [0.92, 1.885]	1.795 [1.373, 2.705]	0.0352
LDL-C (mmol/L)	3.01 [2.58, 3.965]	3.57 [3.123, 4.270]	0.249
HDL-C (mmol/L)	1.09 [0.9225, 1.268]	0.95 [0.885, 1.11]	0.1208
HbA1c (%)	5.15 [4.85, 5.3]	5.9 [5.525, 6.325]	<0.0001
β-HB (mmol/L)	0.3 [0.18, 0.75]	0.12 [0.85, 0.35]	0.0222

Supplementary Table SXIII. Degr in transcriptomic analysis of MFT response

	Gene	Number
Pre-post up-regulated Degr	LINC02908, GK5, LINC02175, SLC4A4, SYT11, TMEM44, DTX3, KATNAL1, STX16-NPEPL1, PRTFDC1, ARHGEF40, HDAC9, MYL5, NOXA1, NEIL1, KLRK1-AS1, SPATA6, JHY, ANKAR, SLC11A1, DENND6B, CCDC71, PARL, IL1R2, PTGDS, ABCC3, FDXR, INSR, CCDC136, ERCC1, SPINT1, CYP2S1, C1QTNF3, GGACT, THTPA, MRPS28, PLXNA2, ADA, CD9, EPN2, PLB1, SEPTIN10, KRBA1, RRAS, NDUFAF8, NPEPL1, ZNF528-AS1, CSF1R, DHCR24, TRIB3, LINC02481, C1orf54, SMYD3, HCST, DHPS, CACNA1I, CCDC170, MEF2C-AS1, CDH23, KAZN, TNNT1, EIF4A1P4, ADAP2, IGFLR1, SNX21, P2RX1, FSTL1, SALL2, TRPM6, PLCH2, PLXNB1, MELTF, BAIAP3, GPR162, LINC00943, RPL3P7, RASGEF1A, H2BC15, STON1, KCNMB1, MSC-AS1, MYRF, ABI3, SPATA20, HOPX, WHRN, NLRP6, MAP4K1, GNRHR2, PIRAT1, RNF32, IFT140, TFAP2E-AS1, CATSPER2, SYNGR1, ARHGAP6, NAV1, COL6A2, PTPRS, ZFAS1, CUEDC1, PGM5P2, ST8SIA6, ZBTB16, HOXB-AS1, RIMS3, KRT73-AS1, TAGLN, ATP8B3, TRIM7, RBPMS, PYROXD2, GP1BA, SIL1, RTEL1-TNFRSF6B, STARD4-AS1, SPACA6, DRAIC, LYRM9, SSH3, MIRLET7BHG, DOCK6, ICA1, SOX4, LINC02915, PLD4, LOC105375754, CCDC9B, CPT1A, CDC42BPA, ZNF321P, TPST1, PDZD4, CHI3L1, ACP2, ASIC3, M1AP, DGKG, LOC124902027, FAM228B, ADGRD1, CLEC10A, AJM1, FKBP5, LINC00639, GPRASP2, TPH1, LRRC51, NT5DC2, CACNA1H, LINC02289, PPP2R2B, COL9A2, MERTK, ARAP1-AS2, THNSL2, PTGIR, KRTCAP3, H3C10, MIR186, GIPR, TMEM147-AS1, CRYBG2, ZNF365, EPM2A-DT, TSPOAP1, PIGL, FADS2, RASL11A, LOC107985216, ARK2C, FKBP14, RALY-AS1, SASH1, PAQR7, GNGT2, WBP2NL, ST14, UBE2FP3, HSPA7, S100Z, LINC02910, H1-0, ARVCF, APOBEC3H, KLHDC8B, OTX1, ZNF425, BAIAP2, SCN1B, KLRF1, MIR3682, SELENOM, FADS1, DNM1P46, FLT3, TANC1, EBF4, FGFRL1, CEBPD, ST8SIA6-AS1, ANKRD6, SCN8A, TFAP2E, OCM, DICER1-AS1, LINC00173, MYO7A, DTHD1, RHOC, ELOVL6, KLRD1, SGSM3, PPFIA4, FAM66C, GPR199P, PID1, SPON2, PDGFC, WNT1, NMUR1, PZP, NFIA, SPATA31H1, LOC102724104, QPRT, XPOTP1, RGS9, WASF3, LINC01750, LINC00299, ZNF219, GLB1L2, CLDN20, GFOD1, PRELID2, LINC02324, GRK4, TNNC2, GRIN2C, B3GAT1, LOC127814295, RYR1, DUSP1, SPTSSB, TENM1, CHPF, KLF9, RPGRIPI, LOC100506274, PRKCZ-AS1, CACNB1, MMP9, C3orf20, PRRT2, EFNA5, FAM131B, BMS1P1, SLC5A9, CIB2, SMIM10L2A, RPS20P6, NID1, C10orf105, SORCS2, LASP1NB, TSC22D3, LINC01819, ECT2L, RPL31P43, DRAXIN, LOC105376995, CKB, LINC02610, GCNT7, IL1RL1, CEBPA-DT, RAPH1, CARD9, SIGLEC17P, APCDD1, TRGV1, AMOTL1, GUSBP9, DGKK, TMPRSS13, SLC9A5, GASK1A, CACNG6, UGGT2, SPAG8, VENTX, LINC01841, ZNF628, DNM1, TMEM255A, CD160, RAB4A-AS1, ADGRG6, VWF, MYCBPAP, SRRM2-AS1, KCNC3, CCT6B, UPK3A, TRIM17, TRIM74, CDHR1, FAM81B, CC2D2B, CRIP3, CFAP45, ECHDC3, LOC107985211, RPS3AP18, MACROD1, LOC105370174, FTH1P22, MRAS, PDGFRB, CHCHD6, SCNN1A, RPS15AP27, SH3RF1, LINC01191, PDE6G, ZFPM1, LOC105369656, RN7SL834P, C6orf226, FPGT-TNNI3K, SEZ6L, AXL, SEPTIN7P8, LCA5L, RAG1, KNDC1, ADGRA2, ADGRB2, MIR646HG, MCF2L2, PTGDR, STRIP2, PDK4, CRABP2, FAM114A1, DPEP3, LINC01451, GCHFR, TSHR,	447

	<p>PXN-AS1, ERMN, MUC1, LDB2, GUCY2C, TNR, PROX2, GPR153, NEURL1, LRP5, ANP32AP1, LOC644169, TP53TG5, VPS28, ITGAD, LINC01088, SAP30-DT, ASPDH, TRIM73, SCAMP5, AQP10, ZNF469, OLFM1, SPOPO, SPRED1, HIC1, RPS10P1, RCAN2, MAGI2, RNY1, FLJ40194, CNTF, SCARNA9, IRS2, MYZAP, TM4SF19-AS1, POLR2J4, RTEL1, SCNN1D, NECAB2, KCNB1, COPZ2, NHERF4, LINC00908, KCNE1, GLI3, PEG13, EFR3B, FEZ1, LINC02288, H2AC8, TMIGD3, YY2, LRRC36, GRID2IP, SLC25A27, LOXL4, NHERF2, LOC101929719, LINC02937, SHE, AURKC, DDR2, LPL, PAOX, CNM3-DT, PER1, LYNX1, CD1B, EPS8, SLC35D3, GFRA2, LOC101929538, IL6ST-DT, RPL17P24, NEURL1B, F12, AIDAP2, LOC124902477, DDIT4, LOC124900217, TRDJ2, ITGB4, RET, TACSTD2, UICLM, ARHGAP29, SFN, TMEM119, MIR4420, PPP1R17, GPER1, RPL7AP82, CROCC2, FOSB, SLED1, LYPD2</p>	
<p>Pre-post down-regulated Degs</p>	<p>ID3, IL31RA, EMID1, ALAS2, BTBD10P1, TSPAN6, KLC3, PDCD1LG2, LOC100996318, CXCR5, B3GALT2, C4BPA, RN7SL3, SENP8, ADRB1, ANKRD31, MRPL46, SLC6A9, LINC02217, TRAV30, H4C14, ASTN2, RPL21P98, EPB42, RN7SKP70, CICP27, UBE2C, ABCA13, CEACAM6, GCAT, FZD5, MCOLN3, CCR9, SLC4A1, SELENBP1, CISH, SMARCA1, C22orf23, BASP1-AS1, CD274, KRT1, PRSS35, ACSM1, PEX12, ALKBH3-AS1, AHSP, NOG, TRAV36DV7, IL1B, TRAV35, HACD1, DLGAP1-AS3, MRC2, NEBL, YPEL4, FAM83D, ASPM, HBD, KAT7P1, LIPH, GPR18, NPAS2, PLVAP, HBG1, OLFM4, KCNJ2, LSMEM1, TTK, LINC00216, HBB, MYORG, IGKJ5, TRBV7-6, SLC7A8, RUNDC3A, KNL1, TRAV39, IGKJ4, DUXAP1, PRAG1, ZBTB3, LRRC46, HBM, RIMBP3, SLC25A39, RWDD3, BBS12, CKAP2L, FAM124B, ADTRP, ZGLP1, ITGA9, VWCE, ENAH, CCR8, HBA2, IGHV2-70, RPL4P1, RFPL2, ADM, ANKRD36BP2, LYRM4-AS1, TNS1, OSBP2, SNCA, PSPN, SLC16A1, RBM11, ZNF366, HBQ1, EFCAB10-AS1, TRAV10, SLC6A8, ODAD4, GPR146, RAD54B, SMG8, KLF1, MATR3, SPATA41, SUCLG2-DT, CA6, AQP1, ADGRF3, HBA1, GPR15, KTN1-AS1, MOCS3, TRAV2, SERTAD1, TRAV22, THBS4-AS1, PLEK2, ZNF667, KCNIP2, CDK13-DT, GATA1, CCR7, LOC254896, FBXO5, THOC3, UBXN6, AK5, ABCG2, RAD51AP1, DSC1, ECT2, PDZK1IP1, RBM7, SLC38A5, DMTN, MYL4, USP31, MLLT3, NUAKE2, PDE4B, PROCA1, ITGA10, DACT1, MSANTD2-AS1, ARL2, MRPL44, GMPR, SMIM24, TIFA, ZNF574, KREMEN1, CMTR2, IL23A, E2F2, HSPH1, TESK, LRP2BP, PRRG4, CLP1, LCN2, ZNF284, RAB20, AVIL, PIM2, LYL1, TRBV5-4, BOLA1, CD24, ZNF626, GRB10, CENPN, EXT1, ITGA3, A1BG-AS1, ZBTB18, LRRN3, DNA2, OVCH1-AS1, GUK1, RASGRP3, EPHB4, DDIA5, PLPP1, RPUSD2, ZSWIM1, RGCC, ZC3H11C, TCN1, TENT5C, ST6GALNAC4, CKS2, TAS1R3, AXIN2, PRICKLE3, GYPC, SOD2, GMNN, CD40, ASCC2, NDUFAF4, DPM2, TRMT10C, PUSL1, CPT1B, EMC3, HPSE, EPB41L5, PI3, PFKFB3, ALKBH2, MYC, KBTBD8, TBCK, PPA1, BIRC3, LRRC8B, MAGI3, NFKBIE, ZNF92, MINPP1, FKBP8, ZNF408, WWC2, ZNF124, BAG1, MRPS18A, DNAJA1, CYB5A, ARHGEF19, TRAV13-1</p>	<p>246</p>