

SUPPLEMENTAL MATERIALS

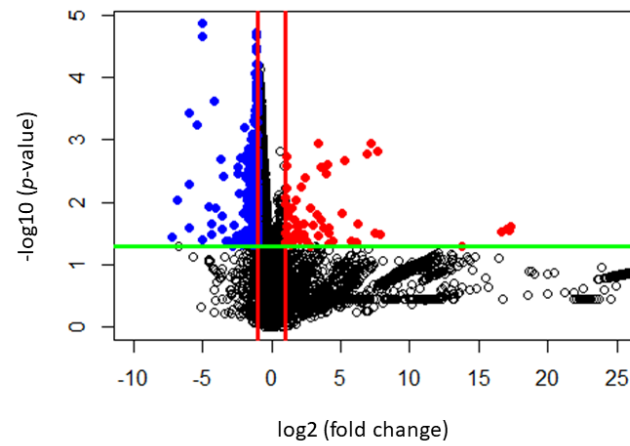


Figure I. PICRUSt2 annotation includes 10 500 genes. Changes in gene frequencies plotted on a volcano plot. We identified 440 genes that were differentially expressed in the gut metagenomes of CHF patients: 365 of them were downregulated and 75 were upregulated.



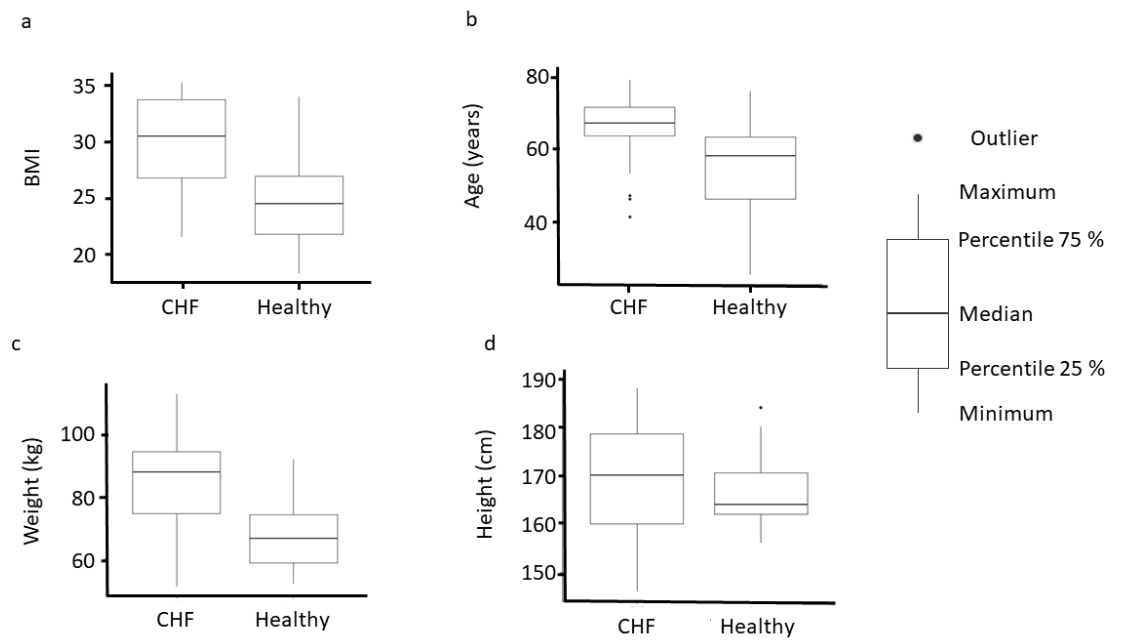


Figure V. Anthropometric parameters of the studied groups. CHF, patients with CHF. Healthy, healthy volunteers. Body mass index (a), age (b), weight (c), and height (d).

Table I. Genes responsible for trimethylamin N-oxide biosynthesis, according to KEGG ontology (KO).

KO	Healthpath.mean	CHFpath.mean	fold	<i>p</i> -value
K01115	-5.2428	-0.0404	5.2023	0.1691
K17717	-26.6477	-0.6724	25.9753	0.1432
K07811	1.0765	1.0637	-0.01288	0.9912
K07812	8.8987	8.2430	-0.6557	0.0484

Table II. List of therapeutics that were used in patients' treatments.

Index	Therapeutics
nh2118	
ni0665	Thrombo ASS®100 mg
nl7187	
nn0966	Aspirin®, De-Nol®
no1740	
nq3967	
nq5400	
nr5193	
nt5910	Concor®, Amlodipine, Noliprel®
nu0687	Isoptin®
xk4530	
xk7699	Bisoprolol, Perindopril
nu9969	Omeprazole
nv7285	
nv8762	Atorvastatin
xl4463	Omeprazole 20 mg
xl5106	Omeprazole 20 mg, Betaserc®
xl7086	
xm9487	
ob4811	Rosuvastatin, Candesartan
ob4860	Omeprazole 40 mg
oc0909	
oc9785	
od3399	
pk7308	
of7414	
og2901	Telzap®
oh3122	
oh7156	Cardiomagnyl 75 mg
oj7527	Renitec®
ok1999	
ok6402	
ol8811	
om2144	
om2763	Coplavix, Enalapril, atorvastatin, Omeprazole
om3324	
om9255	Novynette®
om9313	
on2945	SotaHEXAL, Detralex®, Cardiomagnyl, Euthyrox®

on9775	
oo5194	
xn1582	
oo9790	
xo3595	
os0506	Bisoprolol, Cardiomagnyl, Rosuvastatin
wp3927	Ekvator®, Rivaroxaban, Metoprolol, Phenazepamum
os8566	Mexidol®, Enalapril, Acetylsalicylic acid
wq5251	Valz, Concor®, Verospiron
wr8031	Hartil®, Bisoprolol, Arifon® retard, Verospiron
wt7239	Enalapril, Atorvastatin, Egilok®, Atorvastatin
wt9623	Enalapril, Atorvastatin
ot4853	Xarelto®, Rosuvastatin, Torasemide, Verospiron
xo3728	Bisoprolol, Allapinin, Indapamide
ou2004	Xarelto®, Bisoprolol,
ou9249	Losartan, Sotalol, Euthyrox®, Omeprazole, Rivaroxaban, Bisoprolol
ox1581	l-L-Thyroxin 50 Berlin-Chemie, Verospiron
wu1289	Lisinopril, Atorvastatin
ox6960	Sotalol, Apixaban, Omeprazole
ox7729	Concor®, Cardiomagnyl, Euthyrox®
oy8593	Losartan, Aspirin®, Bisoprolol, Hydrochlorothiazide
ho3384	Indapamide, Amlodipine, Metoprolol
wu1636	
oz3346	Propafenone, Atorvastatin, Bisoprolol, Hydrochlorothiazide
wu6007	Metoprolol, Torvacard, Verospiron, Cardiomagnyl
wv0777	Lozap plus, Torvacard, Phenazepamum, Bisoprolol
oz6471	Bisoprolol, Atorvastatin, Allopurinol
wv2773	Losartan, Bisoprolol, Furosemide, Atorvastatin,
wv7822	Lisinopril, Metoprolol, Atorvastatin, Verospiron
wx2334	Bisoprolol, Hydrochlorothiazide, Atorvastatin

ni8189	Valsartan, Atorvastatin, SotaHEXAL, Indapamide, Metoprolol
wy2804	Atorvastatin, Losartan, Amlodipine, Indapamide, Bisoprolol, Verospiron
wz0104	Losartan, Torasemide, Amlodipine
xa2543	Bisoprolol, Fosinopril
xa7120	Valsartan, Aspirin®, Metoprolol, Furosemide
xb2260	Losartan, Bisoprolol, Verospiron, Omeprazole, atorvastatin
xg6068	
xb9489	Perindopril, Verospiron, Indapamide
ye6753	Metoprolol, Xarelto®, Atorvastatin, Lisinopril, Torasemide
xc8845	Bisoprolol, Valsartan, Allapinin, Lovastatin, Xarelto®, Verospiron, Omez
xk0827	Enalapril, Concor®, Hydrochlorothiazide
pa4637	Sotalol, L-Thyroxin 50 Berlin-Chemie, Amlodipine, atorvastatin, Perindopril
pa6483	Nebilet®, Valsartan, Rosuvastatin, Torasemide
pb7910	Xarelto®, Losartan, Bisoprolol
pb9866	L-Thyroxin 50 Berlin-Chemie, Thrombo ASS®, Concor®, Verospiron, Furosemide
pd7678	Lodoz, Concor®, Allapinin, Xarelto®
xo4734	Pradaxa, Omez, Valsartan, SotaHEXAL, Atorvastatin, Allapinin
ph1503	Enalapril, Metoprolol, Atorvastatin
ph8318	Fosinopril, Bisoprolol, Verospiron
pk4172	Nebilet®, Aprovasc®, Xarelto®, Indapamide
pk6045	Lisinopril, Bisoprolol, Indapamide, Verospiron

Table III. Sequences of miRNAs assessed in this study.

Accession No.	ID	miRNA sequence	miRNA
MIMAT0000416	hsa-miR-1-3p	UGGAAUGUAAAGAAGUAUGUAU	1-3p
MIMAT0004494	hsa-miR-21-3p	CAACACCAGUCGAUGGGCUGU	21-3p
MIMAT0000681	hsa-miR-29c-3p	UAGCACCAUUUGAAAUCGGUUA	29c-3p
MIMAT0000278	hsa-miR-221-3p	AGCUACAUUGUCUGCUGGGUUC	221-3p
MIMAT0004785	hsa-miR-545-5p	UCAGUAAAUGUUUAUUAGAUGA	545-5p
MIMAT0000279	hsa-miR-222-3p	AGCUACAUCUGGCUACUGGGU	222-3p
MIMAT0002819	hsa-miR-193b-3p	AACUGGCCCUCAAAGUCCCGCU	193b-3p
MIMAT0004767	hsa-miR-193b-5p	CGGGGUUUUGAGGGCGAGAUGA	193b-5p
MIMAT0026482	hsa-miR-190a-3p	CUAUUAUCAAACAUAUCCU	190a-3p
MIMAT0004560	hsa-miR-183-3p	GUGAAUUACCGAAGGGCCAUA	183-3p
MIMAT0000703	hsa-miR-361-5p	UUAUCAGAAUCUCCAGGGGUAC	361-5p

Table IV. Correlation of bacterial AVS, miRNA, PIIINP, hydroxypyruvate, and magnetic resonance imaging (MRI) fibrosis markers. Heart fibrosis markers T1 Native and T1 LGE in the heart were measured using contrast MRI.

	T1 Native	T1 LGE
<i>Granulicatella</i>	-0.31	-0.26
<i>Enterococcus</i>	0.33	0.10
<i>Lachnoclostridium</i>	-0.33	0.06
<i>Howardella</i>	0.30	0.29
p-75-a5	0.39	0.00
<i>Allisonella</i>	-0.35	0.07
Hydroxypyruvate	-0.39	-0.05
Alp75	0.38	-0.20
PIIINP	-0.42	0.04
190a-3p	-0.13	-0.40
221-3p	-0.38	-0.14