

Title: Serum metabolomic biomarkers of perceptual speed in cognitively normal and mildly impaired subjects with fasting state stratification

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Supplemental Table S4. Spearman's ρ correlation between cognitive domains and lipid mediators in all subjects (without fasting state stratification).

Metabolite	Spearman ρ						Correlation p-value					
	Episodic memory	Global cognition	Perceptual orientation	perceptual speed	semantic memory	working memory	Episodic memory	Global cognition	Perceptual orientation	perceptual speed	semantic memory	working memory
T-a-MCA/CDCA	-0.218	-0.246	-0.0716	-0.23	-0.245	-0.0175	0.0015	0.0003	0.302	0.0008	0.0003	0.801
GDCA/CDCA	-0.141	-0.175	-0.059	-0.204	-0.196	0.0205	0.041	0.0113	0.395	0.003	0.0044	0.768
LA_screen	0.0101	0.0511	0.0104	0.201	0.0613	-0.0111	0.884	0.46	0.88	0.0034	0.376	0.873
T-a-MCA	-0.158	-0.196	-0.0653	-0.199	-0.187	-0.0145	0.0219	0.0044	0.347	0.0038	0.0066	0.835
TLCA/CDCA	-0.212	-0.228	-0.0637	-0.19	-0.225	-0.0072	0.002	0.0009	0.359	0.0058	0.001	0.918
DHA_screen	0.0452	0.075	0.142	0.187	0.0557	-0.0666	0.514	0.278	0.0393	0.0066	0.421	0.336
w-MCA/T-a-MCA	0.196	0.223	0.0839	0.186	0.234	0.003	0.0043	0.0012	0.226	0.007	0.0006	0.966
GLCA/CDCA	-0.179	-0.158	-0.0462	-0.17	-0.101	0.0352	0.0092	0.0219	0.505	0.0136	0.147	0.612
AA_screen	0.0432	0.0237	0.0507	0.167	0.032	-0.099	0.532	0.732	0.464	0.015	0.644	0.152
EPA_screen	0.0608	0.0811	0.104	0.162	0.0587	-0.0524	0.38	0.241	0.134	0.0188	0.396	0.449
CDCA	0.15	0.167	0.0118	0.156	0.171	0.0169	0.0297	0.0155	0.865	0.0235	0.0132	0.808
TLCA	-0.185	-0.199	-0.0935	-0.155	-0.182	-0.011	0.0071	0.0037	0.177	0.0245	0.0083	0.874
ALA_screen	0.0374	0.0502	0.0265	0.14	0.023	-0.0389	0.589	0.468	0.702	0.0416	0.74	0.574
POEA_Screen	0.0291	0.0418	0.0593	0.138	0.0046	-0.0321	0.674	0.546	0.391	0.045	0.947	0.643
TDCA/DCA	-0.167	-0.201	-0.0575	-0.134	-0.24	-0.0286	0.0152	0.0035	0.407	0.0521	0.0004	0.68
15-HEPE	0.105	0.135	0.12	0.129	0.0602	0.0441	0.127	0.0496	0.0821	0.0612	0.384	0.524
GDCA/DCA	-0.164	-0.187	-0.0806	-0.126	-0.213	-0.0212	0.0173	0.0065	0.245	0.0689	0.0019	0.76
Sum(DiHOME/EpOME)	-0.0329	-0.1	-0.0402	-0.122	-0.0785	-0.161	0.635	0.146	0.561	0.0774	0.256	0.019
TDCA/CA	-0.235	-0.183	-0.0247	-0.122	-0.127	0.0366	0.0006	0.0079	0.722	0.0781	0.0666	0.598
TXB2	0.0421	0.0478	0.0466	0.115	0.0474	-0.0496	0.543	0.489	0.501	0.0946	0.494	0.474
CA	0.183	0.133	-0.0069	0.114	0.116	-0.0611	0.0078	0.0539	0.92	0.0995	0.0926	0.378
NA-Gly	0.0193	0.0176	0.0757	0.106	0.0224	-0.052	0.78	0.799	0.274	0.124	0.746	0.452
Acetaminophen	-0.0169	-0.108	-0.0211	-0.106	-0.155	-0.0652	0.807	0.117	0.761	0.127	0.024	0.346
UDCA	-0.0682	-0.0989	-0.0712	-0.104	-0.0156	-0.0897	0.326	0.153	0.304	0.133	0.822	0.196
9-KODE	-0.0019	0.0137	-0.0898	0.104	0.028	0.0245	0.978	0.844	0.194	0.133	0.685	0.723
CRTN	-0.0121	-0.042	-0.0535	-0.104	-0.0202	0.0088	0.861	0.545	0.44	0.134	0.772	0.899
14(15)-EpETRe	0.0173	0.0598	0.074	0.103	0.0953	0.0346	0.803	0.387	0.285	0.135	0.168	0.617
GDCA/CA	-0.232	-0.15	0.0027	-0.103	-0.0727	0.0682	0.0007	0.0294	0.969	0.138	0.295	0.325
DCA	0.0623	0.127	0.036	0.0988	0.216	0.0578	0.369	0.0655	0.604	0.154	0.0017	0.405
TCA/CA	-0.176	-0.151	-0.0228	-0.0962	-0.134	0.0306	0.0105	0.0286	0.743	0.165	0.0528	0.66
14_15-DiHETRe/14(15)-EpETRe	-0.0186	-0.0638	-0.0961	-0.0933	-0.0864	-0.054	0.788	0.356	0.165	0.177	0.211	0.435
GCA/CA	-0.184	-0.131	-0.0224	-0.0922	-0.0832	0.0719	0.0076	0.0577	0.747	0.183	0.23	0.3
12,13-DiHOME/EpOME 2	-0.0207	-0.0718	0.0041	-0.0906	-0.0438	-0.145	0.765	0.299	0.953	0.19	0.527	0.0355
12_13-DiHOME/12(13)-EpOME	-0.0207	-0.0718	0.0041	-0.0906	-0.0438	-0.145	0.765	0.299	0.953	0.19	0.527	0.0355
9_10-e-DiHO	0.0177	0.0337	-0.028	0.0904	0.0347	0.0123	0.798	0.626	0.686	0.191	0.616	0.859
TDCA/TLCA	0.0339	0.0706	0.0494	0.0906	0.0813	0.023	0.625	0.308	0.476	0.191	0.241	0.74
Sum(DiHETRe/EpETRe)	-0.0107	-0.0485	-0.0749	-0.09	-0.0802	-0.0345	0.877	0.483	0.279	0.193	0.246	0.618
w-MCA/UDCA	0.143	0.155	0.12	0.0883	0.102	0.0425	0.0381	0.0247	0.0835	0.203	0.14	0.541
F2-IsoP	0.0326	0.0507	0.0847	0.0875	-0.0021	0.0123	0.638	0.464	0.22	0.206	0.976	0.859
CRCTN	-0.0139	-0.0394	-0.0433	-0.087	0.0558	-0.0635	0.841	0.57	0.533	0.209	0.421	0.36
DGLEA	-0.0527	-0.008	-0.0546	0.0865	0.0332	0.0241	0.446	0.908	0.43	0.211	0.631	0.728
1-OG	0.0257	-0.0046	-0.0121	0.085	0.0092	-0.11	0.711	0.947	0.861	0.219	0.894	0.113
EPEA_Screen	0.0248	0.0288	0.0769	0.0843	0.018	-0.0718	0.72	0.677	0.266	0.223	0.795	0.299
9(10)-EpOME	0.0135	0.0413	0.0401	0.0842	-0.0239	0.0827	0.846	0.551	0.562	0.223	0.73	0.232
17-HDoHE	-0.0414	-0.0544	0.0464	-0.082	-0.0638	-0.0113	0.55	0.432	0.503	0.236	0.356	0.87
PGE2	0.027	0.0119	-0.0633	0.0813	0.0336	-0.0221	0.697	0.864	0.36	0.239	0.628	0.749
TCDCa	-0.0372	-0.0872	-0.0625	-0.0806	-0.136	-0.0177	0.592	0.208	0.367	0.245	0.0494	0.799
12(13)-EpOME	0.007	0.0616	0.0173	0.0798	0.0258	0.109	0.919	0.373	0.803	0.248	0.71	0.114
11_12-DiHETRe	-0.0004	0.041	0.019	0.0797	0.0402	0.0376	0.996	0.554	0.784	0.249	0.561	0.588
Sum(DiHODE/EpODE)	-0.0174	-0.0205	0.0731	-0.0784	-0.0047	-0.0816	0.801	0.767	0.291	0.257	0.945	0.238
15_16-DiHODE/15(16)-EpODE	-0.0142	-0.0252	0.0625	-0.0775	-0.0018	-0.0982	0.837	0.716	0.367	0.262	0.979	0.155

Continuation of the Supplemental Table S3

Metabolite	Episodic memory	Global cognition	Perceptual orientation	perceptual speed	semantic memory	working memory	Episodic memory	Global cognition	Perceptual orientation	perceptual speed	semantic memory	working memory
9-HETE	-0.0521	-0.0499	-0.081	0.0739	-0.0682	-0.0311	0.452	0.471	0.241	0.285	0.324	0.653
PGF2a	0.0578	0.0448	0.072	0.0737	-0.0062	-0.0607	0.404	0.517	0.298	0.287	0.928	0.381
5_6-DiHETrE	0.0413	0.0777	0.0843	0.0723	0.0372	0.0726	0.551	0.261	0.223	0.296	0.591	0.294
GLCA	-0.0841	-0.0401	-0.0481	-0.0723	0.0484	0.033	0.225	0.563	0.488	0.297	0.486	0.635
9,10-DIHOME/EpOME 2	0.016	-0.0323	-0.0914	-0.0698	0.0129	-0.0946	0.817	0.641	0.186	0.313	0.852	0.171
9_10-DIHOME/9(10)-EpOME	0.016	-0.0323	-0.0914	-0.0698	0.0129	-0.0946	0.817	0.641	0.186	0.313	0.852	0.171
CRTL	-0.0135	-0.0428	-0.0579	-0.0692	0.0413	-0.0482	0.846	0.537	0.404	0.318	0.552	0.487
GUDCA/UDCA	0.129	0.135	0.015	0.0684	0.0848	0.109	0.0624	0.0517	0.829	0.324	0.221	0.114
9-HODE	0.0325	0.029	-0.0324	0.0682	-0.029	0.04	0.638	0.675	0.64	0.324	0.676	0.564
PGE3	0.0174	0.0137	-0.015	-0.0633	-0.0068	0.0247	0.802	0.843	0.829	0.36	0.922	0.722
5-HETE	-0.0683	-0.0555	-0.0062	0.0626	-0.0506	-0.0169	0.324	0.423	0.928	0.365	0.464	0.807
9_10-DIHODE	-0.0431	-0.0209	-0.0361	-0.0626	-0.0488	0.0426	0.534	0.762	0.602	0.366	0.481	0.539
(GDCA+GLCA)/(TDCA+TLCA)	0.191	0.187	0.0197	0.0626	0.158	0.0768	0.0055	0.0067	0.777	0.367	0.0223	0.268
w-MCA	0.103	0.115	0.0483	0.0598	0.153	0.0222	0.138	0.0961	0.487	0.389	0.0268	0.749
15_16-DIHODE	-0.0331	-0.0066	0.0059	-0.0592	-0.0254	0.0286	0.633	0.924	0.932	0.392	0.714	0.68
GDCA/GLCA	-0.0117	0.0103	0.0219	0.0588	-0.0174	0.049	0.867	0.882	0.753	0.397	0.802	0.48
DHEAS	-0.0161	0.0029	0.0012	0.0578	0.0563	-0.013	0.817	0.966	0.987	0.405	0.417	0.852
14_15-DiHETrE	0.0216	0.0371	-0.0688	0.0575	0.0585	0.0254	0.755	0.593	0.32	0.406	0.398	0.714
1-LG	0.0403	-0.01	-0.0523	0.0569	-0.0026	-0.107	0.56	0.885	0.45	0.411	0.97	0.122
TDCA	-0.141	-0.117	-0.0176	-0.0559	-0.0876	0.0031	0.0417	0.0917	0.8	0.421	0.206	0.964
NO-Gly	0.009	-0.0006	0.0178	0.0552	-0.0069	-0.0603	0.897	0.993	0.797	0.425	0.92	0.384
5-HEPE	0.0415	0.0169	0.12	0.0538	-0.0376	-0.088	0.548	0.807	0.0816	0.437	0.587	0.203
DHEA	0.0513	0.0311	0.055	0.0521	-0.0234	-0.025	0.458	0.654	0.427	0.452	0.736	0.718
4-HDoHE	0.0461	0.0549	0.0219	0.0513	-0.0066	0.0498	0.506	0.427	0.752	0.459	0.924	0.472
9-KODE/9-HODE	-0.0158	0.019	-0.0283	0.0512	0.0862	0.0215	0.819	0.784	0.683	0.46	0.213	0.756
12-HETE	0.0084	-0.0311	0.0101	-0.0509	-0.0617	-0.0073	0.903	0.653	0.884	0.462	0.373	0.916
2-AG	1	-0.0497	-0.0275	0.0501	-0.0132	-0.146	0.999	0.473	0.691	0.469	0.849	0.0341
AEA	-0.073	-0.0552	-0.001	0.0458	-0.0635	-0.0237	0.292	0.425	0.989	0.509	0.359	0.732
PGD2	0.0564	0.0883	0.0343	0.0457	0.141	0.0286	0.415	0.201	0.621	0.509	0.0403	0.679
13-HODE	0.0201	0.0127	0.0122	0.0449	-0.0716	0.0245	0.771	0.854	0.86	0.517	0.301	0.724
aLEA	-0.0091	-0.0154	0.0147	-0.0435	0.0152	-0.0239	0.896	0.824	0.832	0.53	0.826	0.73
DCA/CA	-0.166	-0.062	0.0289	-0.0423	0.0331	0.104	0.0159	0.371	0.677	0.542	0.634	0.133
2-OG	0.0508	0.011	0.0029	0.0413	0.0059	-0.073	0.463	0.874	0.967	0.551	0.932	0.291
Aspirin	0.0288	0.0244	0.0393	0.0401	-0.0502	0.0505	0.678	0.725	0.57	0.562	0.468	0.465
GUDCA	0.048	0.0323	-0.0978	-0.0396	0.0929	0.032	0.489	0.642	0.158	0.568	0.18	0.645
12_13-DIHODE/12(13)-EpODE	0.126	0.0828	0.124	0.0378	-0.0749	0.0565	0.0676	0.231	0.0734	0.585	0.279	0.415
DEA	-0.0245	-0.0662	-0.0434	0.0374	-0.0492	-0.114	0.723	0.338	0.531	0.589	0.477	0.0983
2-LG	0.0243	-0.0292	-0.054	0.0371	-0.0131	-0.113	0.726	0.673	0.435	0.592	0.85	0.101
12-HEPE	0.0131	-0.0191	0.0381	-0.0354	-0.0852	-0.0022	0.85	0.783	0.582	0.61	0.218	0.974
13-HOTE	-0.0107	0.0237	0.037	0.035	-0.008	0.0607	0.878	0.732	0.593	0.613	0.908	0.38
12-HEPE/12-HETE	0.0134	0.0415	0.0624	0.0348	-0.0322	0.0472	0.847	0.549	0.367	0.615	0.642	0.495
TCA	-0.044	-0.0559	-0.0218	-0.0335	-0.0834	0.0201	0.526	0.421	0.753	0.629	0.229	0.772
9_10-DIHOME	-0.0217	-0.0319	-0.0424	-0.0331	-0.0748	0.02	0.754	0.645	0.541	0.633	0.28	0.773
GCDCA/GLCA	0.0776	0.0253	0.0349	0.0332	-0.0678	-0.0255	0.263	0.715	0.615	0.633	0.328	0.713
1-AG	0.0041	-0.0517	-0.0413	0.0326	-0.0218	-0.124	0.953	0.455	0.551	0.638	0.752	0.0716
GCA/GDCA	0.0667	0.0269	-0.0082	0.0324	-0.0359	-0.002	0.336	0.699	0.906	0.64	0.605	0.977
11-Deoxy-CTRL	-0.0059	-0.0214	-0.0017	-0.0324	-0.0173	-0.0426	0.932	0.758	0.981	0.641	0.803	0.54
15(16)-EpODE	0.0075	0.0502	-0.0351	0.0316	0.0251	0.112	0.914	0.468	0.612	0.648	0.717	0.106
11-HETE	0.0394	0.0116	0.0107	0.0299	0.0025	-0.0414	0.569	0.868	0.877	0.666	0.971	0.55
OEA	0.0183	0.0049	0.025	0.0298	-0.0137	-0.0745	0.792	0.943	0.718	0.667	0.844	0.282
9_10-DIHODE/9(10)-EpODE	-0.0331	0.009	0.0222	-0.0287	0.038	0.0238	0.633	0.897	0.748	0.679	0.583	0.731
20-HETE	-0.0562	-0.0429	0.014	0.027	0.0779	-0.151	0.417	0.535	0.839	0.696	0.26	0.0286
9-HOTE	0.0372	0.0523	-0.0075	0.0262	0.0195	0.0488	0.591	0.45	0.914	0.705	0.778	0.481
9_12_13-TriHOME	0.0468	0.0081	-0.0186	0.0259	-0.0345	-0.0882	0.499	0.907	0.788	0.709	0.618	0.202
14_15-DIHETE	-0.0172	-0.0202	0.0659	-0.0254	-0.0734	0.0039	0.804	0.771	0.341	0.714	0.289	0.955
Sum(HDoHEs)	-0.0009	-0.0323	0.0501	-0.024	-0.0889	-0.0181	0.99	0.641	0.47	0.729	0.199	0.794
14,15/11,12-DiHETrE	0.059	-0.0012	-0.12	-0.0212	0.0264	-0.0653	0.394	0.986	0.0823	0.76	0.704	0.345
14-HDoHE	0.0022	-0.0272	0.0567	-0.0196	-0.0874	-0.0133	0.974	0.695	0.413	0.778	0.206	0.848
17OH-PROG	0.0538	0.0356	-0.0813	0.0196	0.0248	0.0293	0.438	0.609	0.241	0.778	0.721	0.673
15-HETE	0.0014	-0.0171	0.0216	0.0193	-0.0493	-0.0142	0.984	0.805	0.755	0.78	0.476	0.837

Continuation of the Supplemental Table S3

Metabolite	Episodic memory	Global cognition	Perceptual orientation	perceptual speed	semantic memory	working memory	Episodic memory	Global cognition	Perceptual orientation	perceptual speed	semantic memory	working memory
8_9-DiHETrE	-0.0538	-0.0524	-0.06	-0.0172	-0.0379	-0.0236	0.437	0.449	0.386	0.804	0.584	0.734
12_13-DiHOME	-0.0171	-0.0087	0.0116	-0.0168	-0.0467	0.0258	0.805	0.9	0.867	0.808	0.5	0.71
17_18-DiHETE	0.0047	0.0173	0.0054	-0.0168	-0.0351	0.047	0.946	0.802	0.938	0.809	0.612	0.497
Sum(DiHETEs)	-0.0009	0.011	0.0167	-0.0147	-0.0376	0.0397	0.989	0.874	0.81	0.832	0.587	0.566
Sum_n3_Diols	-0.0219	-0.003	0.013	-0.0146	-0.0436	0.0381	0.752	0.966	0.851	0.833	0.529	0.582
17_18_DiHETE+19_20_DiHDoPe	-0.0158	0.0038	0.0066	-0.0144	-0.0401	0.042	0.82	0.956	0.924	0.835	0.563	0.544
Average n3 diols	-0.0158	0.0038	0.0066	-0.0144	-0.0401	0.042	0.82	0.956	0.924	0.835	0.563	0.544
Tes/Prog	-0.0038	0.0094	0.0743	-0.0144	-0.0562	0.0279	0.956	0.893	0.284	0.836	0.418	0.687
GCDCA	0.0194	0.0049	-0.0334	-0.0143	0.0093	0.0053	0.779	0.944	0.631	0.837	0.893	0.939
LTB4	-0.0993	-0.0704	-0.0415	0.0113	-0.0953	0.0211	0.151	0.309	0.549	0.87	0.168	0.76
GDCA	-0.102	-0.0403	-0.0131	-0.0098	0.0379	0.0404	0.142	0.561	0.851	0.888	0.585	0.561
CA/CDCA	0.074	-0.0165	-0.0216	-0.008	-0.0585	-0.111	0.286	0.813	0.756	0.908	0.399	0.108
GCA	-0.0179	-0.0034	-0.0175	0.0069	0.014	0.0323	0.797	0.962	0.801	0.921	0.84	0.642
5_15-DiHETE	-0.039	0.0089	0.123	0.0065	0.0548	-0.0145	0.573	0.898	0.0739	0.926	0.428	0.834
LEA	-0.0229	-0.0412	-0.0721	-0.006	-0.0123	-0.0398	0.741	0.552	0.297	0.931	0.859	0.565
TEST	0.0446	0.0492	-0.0002	0.0059	-0.0149	0.0606	0.52	0.478	0.998	0.933	0.83	0.382
9(10)-EpODE	-0.044	-0.0678	-0.0546	0.0055	-0.0866	-0.0537	0.526	0.327	0.43	0.937	0.21	0.438
12_13-DiHODE	0.0753	0.0922	0.0618	0.0036	0.0265	0.101	0.276	0.182	0.372	0.958	0.702	0.143
PGE2/PGD2	0.0942	0.114	0.107	0.0033	0.087	0.0596	0.173	0.0999	0.123	0.962	0.208	0.389
PGF2a-1G	-0.0392	-0.0543	-0.128	0.0033	-0.0196	-0.0852	0.571	0.433	0.0646	0.962	0.777	0.218
12(13)-EpODE	-0.0343	0.0317	-0.0453	-0.0025	0.112	0.0846	0.62	0.647	0.513	0.971	0.105	0.221
Ibuprofen	-0.103	-0.0993	-0.038	0.0023	-0.0313	-0.105	0.161	0.177	0.606	0.975	0.671	0.154
19_20-DiHDoPE	-0.059	-0.0276	0.0222	-0.0017	-0.0507	0.0127	0.394	0.69	0.749	0.98	0.464	0.854