

Table S3 The list of differential metabolites between control and DEX groups

Compounds	VIP	Fold Change	Log2FC
4-Hydroxy-L-Glutamic Acid	1.834961	0.292306	-1.77445
D-Alanyl-D-Alanine	1.74647	0.17264	-2.53416
N6-Acetyl-L-Lysine	1.662565	0.378057	-1.40332
N-Phenylacetyl glycine	1.761646	0.433484	-1.20595
Uridine	1.495553	0.422001	-1.24468
Succinic Acid	1.515075	4.501145	2.170292
Citramalic Acid	1.406165	0.424358	-1.23665
3-Hydroxy-3-Methyl Butyric Acid	1.589966	2.156907	1.108964
Methylmalonic Acid	1.515075	4.501145	2.170292
Phenylpyruvic Acid	1.452233	11.48343	3.521481
O-Phosphorylethanolamine	1.481699	0.489059	-1.03192
9-HpODE	1.725883	2.622019	1.390678
9,10-DiHOME [(±)9,10-dihydroxy-12Z-octadecenoic acid]	1.765199	3.882635	1.957036
γ-Linolenic Acid(C18:3N6)	1.643698	2.091015	1.064203
Palmitoleic Acid(C16:1)	1.731844	2.647301	1.404522
Α-Linolenic Acid(C18:3N3)	1.643698	2.091015	1.064203
2'-Deoxycytidine-5'-Monophosphate	1.731278	0.416168	-1.26476
Aminomalonic Acid	1.493634	4.354166	2.122396
8,15-Dihete	1.692382	2.534989	1.34198
Acetyl Tryptophan	1.594871	0.077348	-3.69249
ADP-ribose	1.356111	2.774148	1.472044
N-(2-Methylbenzoyl)glycine	1.761646	0.433484	-1.20595
11,12-EET [(±)11,(12)-epoxy-5Z,8Z,14Z-eicosatrienoic acid]	1.216257	0.230822	-2.11515
15-oxoETE [15-oxo-5Z,8Z,11Z,13E-eicosatetraenoic acid]	1.243536	0.03273	-4.93323
9-oxoODE [9-oxo-10E,12Z-octadecadienoic acid]	1.444279	2.208159	1.142844
Prostaglandin E2	1.247323	0.272039	-1.87811
PGF2α [9α,11α,15S-trihydroxy-prosta-5Z,13E-dien-1-oic acid]	1.248447	0.108476	-3.20456
3-Hydroxyglutaric acid	1.4507	0.375645	-1.41256
N-Amidino-L-Aspartate	1.591972	0.350703	-1.51168
(S) -2-Hydroxyglutaric acid	1.406165	0.424358	-1.23665
9,12-octadecadienoic acid	1.562244	2.15458	1.107407
12,13-DiHOME	1.765199	3.882635	1.957036
Glutathione	1.505768	0.156694	-2.67398
L-arabinonic acid-1,4-lactone	1.4507	0.375645	-1.41256
L-2-amino-6-oximelic acid	1.831239	0.474918	-1.07425
PysoPE 16:1	1.548983	2.072849	1.051615
2-Hydroxy-2-methylbutyric acid	1.765078	3.198318	1.677313

(5-L-Glutamyl)-L-Amino Acid	1.653021	0.427678	-1.2254
Glutathione Oxidized	1.479603	0.150825	-2.72905
L-Homocystine	1.367321	2.333505	1.222499
N-Acetyl-L-Tyrosine	1.56956	0.128603	-2.959
N α -Acetyl-L-Arginine	1.413115	0.069492	-3.847
Deoxyguanosine	1.478171	0.463999	-1.10781
Thymidine	1.747298	0.412371	-1.27798
Uracil	1.678213	0.460654	-1.11824
5-Aminovaleric Acid	1.941767	0.089904	-3.47546
DI-2-Aminooctanoic Acid	1.738662	0.460392	-1.11906
Guanidineacetic Acid	1.913157	0.092057	-3.44133
Uric acid	1.73982	2.157549	1.109393
Lysopc 14:0	1.640752	0.432025	-1.21081
Deoxyadenosine	1.481223	0.324232	-1.6249
L-Homoarginine	1.661632	0.230334	-2.1182
11-Cis-Retinol	1.739785	3.029073	1.598877
Cys-Gly	1.670744	0.475967	-1.07107
2-Aminoadipic Acid	1.604575	0.33278	-1.58736
Sn-Glycero-3-Phosphocholine	1.663623	0.279652	-1.8383
Thiamine	1.343883	0.428322	-1.22323
Stearidonic Acid	1.5635	2.420423	1.275259
N-Alpha-acetyllysine	1.689422	0.227319	-2.13721
2-Methylbutyroylcarnitine	1.386654	3.084453	1.625015
N α -Acetyl-L-glutamine	1.652658	0.277534	-1.84926
N-Methyl-L-Glutamate	1.658001	0.291808	-1.77691
5'-Deoxyadenosine	1.481223	0.324232	-1.6249
N-(2-hydroxyethyl)stearamide	1.792101	2.355554	1.236067
1-Single Palm Essence	1.875232	2.484027	1.312681
Arachidyl glycine	1.524533	3.782555	1.919361
D-Fructose 6-phosphate	1.544426	0.088994	-3.49015
Hemolytic PAF C-18	1.732851	2.504741	1.324662
2-O-ethyl PAF C-16	1.732851	2.504741	1.324662
1-O-palmitoyl-2-O-acetyl-sn-glycerol-3-phosphate choline	1.559046	0.266043	-1.91027
N-Methyl- α -aminoisobutyric acid	1.560024	0.19703	-2.34351
Biotinamide	1.885201	5.83451	2.544611
Cytarabine	1.446226	0.497888	-1.00611
LysoPC 22:4 (2n isomer1)	1.263422	0.313625	-1.67289
LysoPC 22:4	1.263422	0.313625	-1.67289
LysoPC 22:5 (2n isomer3)	1.250915	0.299341	-1.74014
LysoPC 22:5 (2n isomer2)	1.250915	0.299341	-1.74014
LysoPC 18:3(2n isomer3)	1.242689	2.472806	1.306149
mycosporine-glutaminol	1.802239	0.043188	-4.53323
Alanine tyrosine	1.591482	0.224436	-2.15563

Carnitine C20:5	1.312247	4.564703	2.190521
Carnitine C19:0	1.241493	6.349249	2.666586
Carnitine C18:1	1.207013	2.443682	1.289057
Carnitine C14:3	1.392502	6.546167	2.71065
Carnitine C9:DC	1.235488	0.445024	-1.16804
Carnitine C8-OH	1.261908	0.395371	-1.33872
Carnitine C9:0	1.493693	3.818613	1.933049
Carnitine C6:DC	1.462059	3.342186	1.740792
Carnitine C5:1	1.872993	5.805153	2.537334
SDMA	1.566616	0.368221	-1.44136
Methylguanidine	1.844461	0.188515	-2.40725
Phe-Met	1.442611	3.483536	1.800552
Carnitine C18:1 Isomer1	1.207141	2.366057	1.242485

Table S4 The list of differential metabolites between DEX and DEX_CGA groups

Compounds	VIP	Fold Change	Log2FC
Glycocholic Acid	1.275724	0.329585	-1.60128
Xanthine	1.575224	0.387271	-1.36858
Succinic Acid	1.680772	0.152706	-2.71117
2-Hydroxyisocaproic Acid	1.773975	0.421318	-1.24702
Methylmalonic Acid	1.680772	0.152706	-2.71117
Phenyllactate(Pla)	1.598711	0.325116	-1.62097
Phenylpyruvic Acid	1.322356	0.179692	-2.4764
13-HOTrE [13S-hydroxy-9Z,11E,15Z-octadecatrienoic acid]	1.216403	0.476072	-1.07075
Aminomalonic Acid	1.71095	0.154611	-2.69328
2-Deoxyribose 1-Phosphate	1.571005	0.436094	-1.19729
Indole-3-lactic acid	1.810689	0.26017	-1.94247
Xanthosine	2.165148	0.279902	-1.83701
N-lactoyl-phenylalanine	1.989071	0.338934	-1.56092
D-Malic acid	1.613331	0.441856	-1.17835
Cysteine glutathione disulfide	1.348269	0.405507	-1.3022
7-ketolithocholic acid	1.939772	0.086867	-3.52505
12-ketolithocholic acid	1.939772	0.086867	-3.52505
Gamma-Mercholic Acid	2.153594	0.180138	-2.47283
Orthocholic acid	1.491213	0.162992	-2.61712
(S)-Leucic acid	1.85999	0.399424	-1.32401
Glycohyodeoxycholic acid	1.37936	0.276593	-1.85416
L-Alanyl-L-Lysine	1.820256	0.135503	-2.8836
N-Acetylhistamine	1.583883	0.424831	-1.23504
5-Aminovaleric Acid	1.350473	0.494185	-1.01688
2-(Formylamino)Benzoic Acid	2.119871	0.309283	-1.693
2-Methylbutyroylcarnitine	1.696494	0.166186	-2.58913
Oxypurinol	1.515027	0.452929	-1.14264
Dodecylcarnitine	1.225503	0.367734	-1.44327
Taurochenodesoxycholic Acid	1.964825	0.310497	-1.68735
N-Methyl- α -aminoisobutyric acid	1.388629	3.03303	1.60076
(\pm)-Myristylcarnitine	1.246997	0.441107	-1.1808
Biotinamide	1.704703	0.326007	-1.61702
Carnitine C20:1-OH	1.346564	0.169223	-2.56301
Carnitine C21:2	2.022899	0.008619	-6.85822
Carnitine C21:3	1.980766	0.021531	-5.53741
Carnitine C20:1	1.737094	0.196391	-2.3482
Carnitine C20:2	1.857925	0.21995	-2.18475
Carnitine C19:0	1.842466	0.017489	-5.83741
Carnitine C17:1:DC	1.612011	0.424875	-1.23489
Carnitine C18:2-OH	1.407336	0.461343	-1.11609
Carnitine C19:2	1.87666	0.021784	-5.5206

Carnitine C15:DC	1.282411	0.478681	-1.06286
Carnitine C17:0	1.81754	0.040378	-4.63028
Carnitine C14:1-OH	1.539383	0.454961	-1.13619
Carnitine C15:1	1.91036	0.041286	-4.59819
Carnitine C14:2-OH	1.615661	0.499523	-1.00138
Carnitine C14:0	1.205494	0.452795	-1.14307
Carnitine C14:1	1.263499	0.352265	-1.50527
Carnitine C13:0	1.895442	0.050472	-4.30838
Carnitine C13:1	1.565862	0.059425	-4.07279
Carnitine C9:DC	1.424681	0.395115	-1.33966
Carnitine C11:0	1.903002	0.050948	-4.29482
Carnitine C9:0	2.001505	0.024277	-5.36428
Carnitine C8:1	1.419009	0.248871	-2.00653
Carnitine C7:0	1.44833	0.186378	-2.4237
Carnitine C7:1	1.56291	0.042958	-4.54092
Carnitine C5:1	1.694052	0.322373	-1.6332
8-Azaguanine	1.848047	0.415894	-1.26571
Carnitine C13:0 Isomer1	1.906504	0.052175	-4.26049
Carnitine C15 Isomer1	1.902713	0.042336	-4.56197
Carnitine C15	1.874665	0.046147	-4.43763
Carnitine C16:2-OH	1.657053	0.380883	-1.39258
Carnitine C18:1-OH	1.579334	0.412866	-1.27625
Carnitine C19	1.591974	0.401857	-1.31525
Carnitine C20:1 Isomer 1	1.740367	0.192485	-2.37718

Table S5 The list of differential metabolites between control and CGA groups

Compounds	VIP	Fold Change	Log2FC
Citramalic Acid	1.480642	0.437724	-1.19191
D-Glucose 6-Phosphate	1.3886	2.887892	1.530017
L-Fucose	1.887033	3.990861	1.9967
L-Rhamnose	1.887033	3.990861	1.9967
Pantothenol	1.817914	0.497699	-1.00665
3-Hydroxybutyrate	1.902401	4.369049	2.127319
Malonicacid	1.904732	4.288975	2.100633
9-HpODE	1.723345	2.249023	1.169299
9,10-DiHOME [(±)9,10-dihydroxy-12Z-octadecenoic acid]	1.805367	3.813695	1.931189
Palmitoleic Acid(C16:1)	1.539986	2.31967	1.21392
8,15-Dihete	1.61296	2.569359	1.361409
Indole-3-lactic acid	1.71858	0.38595	-1.37351
Xanthosine	1.650674	0.453152	-1.14193
ADP-ribose	1.410056	2.097589	1.068732
D-Malic acid	1.433354	0.303683	-1.71936
9-oxoODE [9-oxo-10E,12Z-octadecadienoic acid]	1.640685	2.56734	1.360275
3-Hydroxyglutaric acid	1.484946	0.459791	-1.12095
(S) -2-Hydroxyglutaric acid	1.480642	0.437724	-1.19191
9,12-octadecadienoic acid	1.766084	3.276754	1.712268
12,13-DiHOME	1.805367	3.813695	1.931189
L-arabinonic acid-1,4-lactone	1.484946	0.459791	-1.12095
D-Mannose 6-phosphate	1.387784	2.516683	1.331523
Mannose 1-phosphate	1.465783	3.028588	1.598645
L-Homocystine	1.413453	2.09525	1.067122
5-Aminovaleric Acid	1.98049	0.272526	-1.87553
Guanidineacetic Acid	1.857131	0.296475	-1.75402
Maleic Acid	1.822826	0.492423	-1.02203
2-(Formylamino)Benzoic Acid	1.597058	0.497379	-1.00758
11-Cis-Retinol	2.207804	6.347052	2.666087
3-Hydroxykynurenine	1.816195	3.281155	1.714204
Stearidonic Acid	1.847868	4.261915	2.091502
2-Methylbutyroylcarnitine	1.357291	0.275766	-1.85848
Threoninyl-Phenylalanine	1.572416	2.167196	1.115829
Valyl-leucine	1.296865	2.529386	1.338787
N-(2-hydroxyethyl)stearamide	1.993285	2.546677	1.348616
Taurochenodesoxycholic Acid	1.834369	0.152051	-2.71737
1-Single Palm Essence	2.12445	2.715079	1.440994
Arachidyl glycine	1.729054	3.235099	1.69381
Calcitriol	1.945264	2.291502	1.196293
Hexanoylcarnitine	1.411695	0.493935	-1.01761

MAG(16:1)isomer	2.235256	2.070618	1.050062
MAG(16:1)	2.235256	2.070618	1.050062
LysoPC 18:3(2n isomer3)	1.368172	2.278821	1.188288
Carnitine C20:1-OH	1.221339	0.196173	-2.3498
Carnitine C21:3	1.294616	0.026051	-5.26252
Carnitine C19:2	1.306551	0.059512	-4.07068
Carnitine C15:1	1.348368	0.085759	-3.54357
Carnitine C13:0	1.43063	0.086652	-3.52862
Carnitine C9:DC	1.951319	0.269151	-1.89351
Carnitine C11:0	1.461504	0.119992	-3.05899
Carnitine C7:0	1.677235	0.341439	-1.5503
Carnitine C6:0 Isomer 2	1.411695	0.493935	-1.01761
Carnitine C6:0 Isomer 1	1.419231	0.494055	-1.01726
Carnitine C6:0	1.411695	0.493935	-1.01761
Carnitine C5:0 Isomer	1.592956	0.398427	-1.32761
Carnitine C5:0	1.615238	0.398	-1.32916
Octadecadienamide	1.87088	2.082258	1.058149
Carnitine C13:0 Isomer1	1.494424	0.078969	-3.66257
Carnitine C15 Isomer1	1.50839	0.084632	-3.56265
Carnitine C15	1.487417	0.075518	-3.72704

Table S6 The list of differential metabolites between CGA and DEX_CGA groups

Compounds	VIP	Fold Change	Log2FC
4-Hydroxy-L-Glutamic Acid	2.029561	0.19137	-2.38556
5-Hydroxy-L-Tryptophan	2.007681	0.397444	-1.33118
D-Alanyl-D-Alanine	1.958007	0.26616	-1.90964
L-Cystathionine	1.424501	0.470381	-1.0881
Xanthine	1.494647	0.430213	-1.21688
D-Mannose	2.087825	0.498645	-1.00391
3-Hydroxybutyrate	1.250479	0.463898	-1.10812
Malonicacid	1.260345	0.45623	-1.13217
O-Phosphorylethanolamine	1.951401	0.304087	-1.71744
Dodecanoic Acid(C12:0)	1.568085	0.471676	-1.08413
2'-Deoxycytidine-5'-Monophosphate	2.037793	0.353225	-1.50134
Acetyl Tryptophan	1.568665	0.066744	-3.90522
Hydroxyphenyllactic acid	1.359812	0.444822	-1.1687
Myoinositol	2.087825	0.498645	-1.00391
Cysteine glutathione disulfide	1.354367	0.295059	-1.76092
N-Amidino-L-Aspartate	1.470803	0.438684	-1.18875
9,12-octadecadienoic acid	1.217705	0.4714	-1.08498
Glutathione	1.852531	0.254991	-1.97148
L-2-amino-6-oximelic acid	1.989319	0.420833	-1.24868
2-Hydroxy-2-methylbutyric acid	1.667892	2.213462	1.146305
Glutathione Oxidized	1.913649	0.233269	-2.09993
Glutathione Reducedform	2.027052	0.456405	-1.13161
N-Acetyl-L-Glutamic Acid	2.042643	0.439625	-1.18565
N-Acetyl-L-Tyrosine	1.610866	0.195757	-2.35286
N α -Acetyl-L-Arginine	1.345596	0.092789	-3.4299
N-Acetylhistamine	1.567591	0.440352	-1.18327
Deoxyguanosine	1.937827	0.374728	-1.41608
Thymidine	1.782045	0.40478	-1.30479
N-Acetyl-5-Hydroxytryptamine	1.82309	0.488206	-1.03444
Trigonelline	1.577633	0.324412	-1.6241
5-Hydroxyindole-3-Acetic Acid	1.454545	0.38229	-1.38726
5-Aminovaleric Acid	1.98671	0.163028	-2.61681
Guanidineacetic Acid	1.968964	0.15902	-2.65272
Lysopc 14:0	1.634369	0.400325	-1.32076
L-Homoarginine	1.47585	0.326177	-1.61627
Cys-Gly	2.033062	0.404429	-1.30604
2-Aminoadipic Acid	1.786186	0.397742	-1.33009
Sn-Glycero-3-Phosphocholine	1.783285	0.269669	-1.89074
Lysopc 15:0	1.729342	0.401509	-1.3165
N-Alpha-acetyllysine	1.585638	0.310505	-1.68731
N α -Acetyl-L-glutamine	1.600599	0.336478	-1.57141
N-Methyl-L-Glutamate	1.789715	0.416391	-1.26399

Oxypurinol	1.44882	0.489499	-1.03062
D-Fructose 6-phosphate	1.930939	0.020598	-5.60135
Biotinamide	1.834218	2.901469	1.536783
LysoPC 22:5 (2n isomer3)	1.273888	0.479146	-1.06146
LysoPC 22:5 (2n isomer2)	1.273888	0.479146	-1.06146
mycosporine-glutaminol	1.985456	0.084287	-3.56855
Alanine tyrosine	1.900552	0.321758	-1.63595
Carnitine C20:1-OH	1.300416	0.467793	-1.09606
Carnitine C20:5	1.693139	2.533677	1.341233
Carnitine C18:1	1.241248	2.319046	1.213531
Carnitine C14:2-OH	1.525715	0.371473	-1.42867
Carnitine C14:3	1.468972	3.109802	1.636823
Carnitine C8-OH	1.71215	0.410211	-1.28556
Carnitine C6:DC	1.215767	2.110178	1.077365
Carnitine C5:1	1.847976	2.910735	1.541384
SDMA	1.754517	0.422692	-1.24232
Methylguanidine	1.710786	0.277475	-1.84957
8-Azaguanine	1.792085	0.416923	-1.26215
Glu-Met	1.462634	0.414833	-1.2694
Met-Glu	1.524639	0.457003	-1.12972
Carnitine C18:1 Isomer1	1.272752	2.439685	1.286695
