

Supplementary information

Effects of psychostimulants and antipsychotics on serum lipids in an animal model for schizophrenia

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Table S1. PLS-DA cross validation details obtained for the ¹H-NMR data on serum lipids of the animal model for SCZ (namely SHR) compared with control NWR strain.

Measure	1 LV	2 LV	3 LV	4 LV	5 LV	6 LV	7 LV
Accuracy	0.826	0.870	0.913	1.000	1.000	1.000	1.000
R ²	0.481	0.545	0.788	0.898	0.946	0.984	0.993
Q ²	0.229	0.323	0.628	0.808	0.860	0.956	0.962

LV - Latent Variable

Table S2. PLS-DA cross validation details obtained for the ¹H-NMR data on serum lipids from NWR after administration of pro-psychotic psychostimulants amphetamine (AMPH) or lisdexanfetamine (LDX), with doses of 0.5 and 5.0 mg/kg.

Measure	1 LV	2 LV	3 LV	4 LV	5 LV	6 LV	7 LV
Accuracy	0.148	0.230	0.344	0.541	0.525	0.656	0.738
R ²	0.128	0.680	0.758	0.804	0.878	0.899	0.934
Q ²	0.049	0.477	0.575	0.617	0.623	0.638	0.596

LV - Latent Variable

Table S3. PLS-DA cross validation details obtained for the ¹H-NMR data from SHR strain serum lipids after treatment with typical (haloperidol, HAL) or atypical (clozapine, CLZ) antipsychotic drugs.

Measure	1 LV	2 LV	3 LV	4 LV	5 LV	6 LV	7 LV	8 LV
Accuracy	0.667	0.697	0.909	0.939	0.909	0.970	1.000	1.000
R2	0.082	0.381	0.732	0.839	0.918	0.964	0.974	0.984
Q2	8.730	0.214	0.579	0.710	0.743	0.867	0.896	0.924

LV - Latent Variable

Table S4. PLS-DA cross validation details obtained for the ¹H-NMR data from control NWR strain serum lipids after treatment with typical (haloperidol, HAL) or atypical (clozapine, CLZ) antipsychotic drugs.

Measure	1 LV	2 LV	3 LV	4 LV	5 LV	6 LV	7 LV	8 LV
Accuracy	0.647	0.941	0.941	0.941	0.971	1.000	1.000	1.000
R2	0.395	0.508	0.600	0.896	0.946	0.980	0.988	0.998
Q2	0.084	0.390	0.496	0.711	0.868	0.955	0.973	0.988

LV - Latent Variable

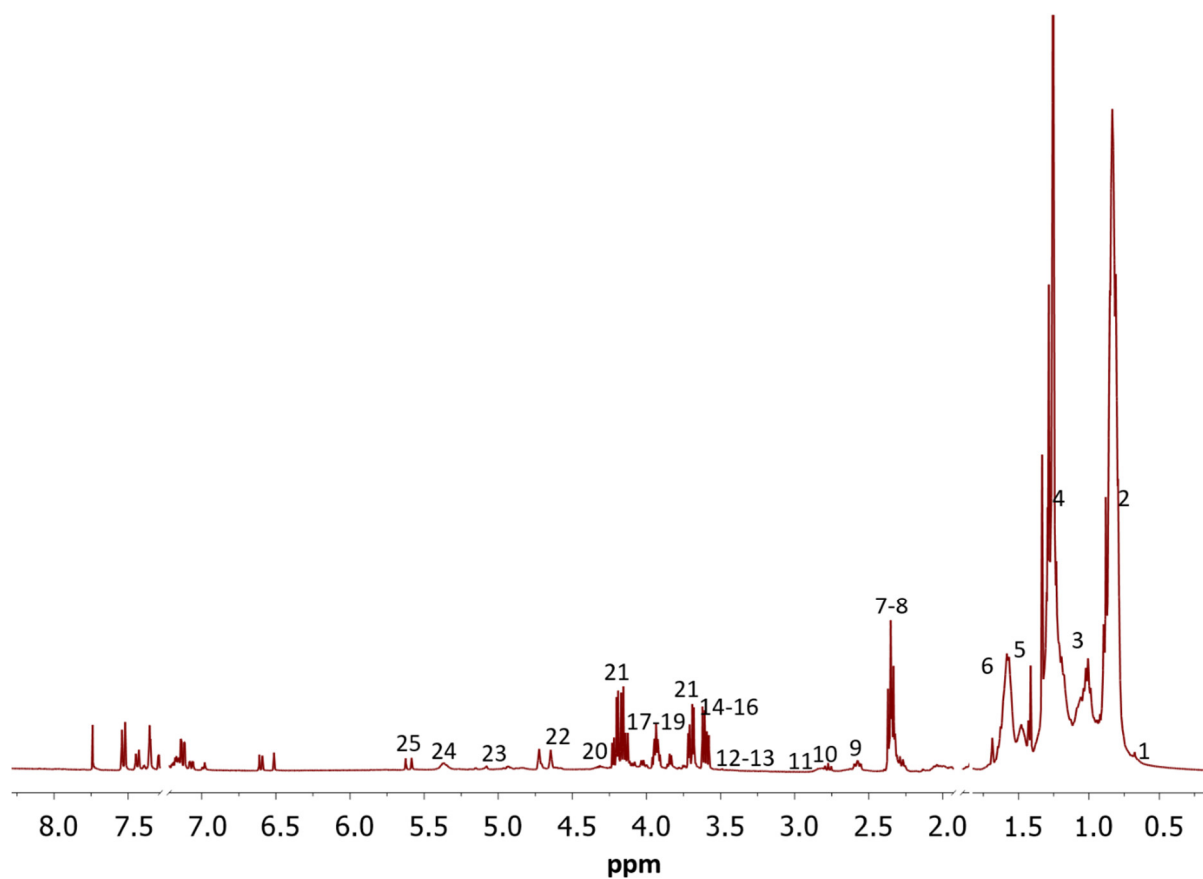


Figure S1. Representative ^1H -NMR spectrum of neutral lipids isolated from animal serum sample. Chemical shifts, peak multiplicity, and coupling constants for the 1-25 compounds were checked against databases and lipids NMR libraries. Assignment and numbers presented are detailed in the main text.

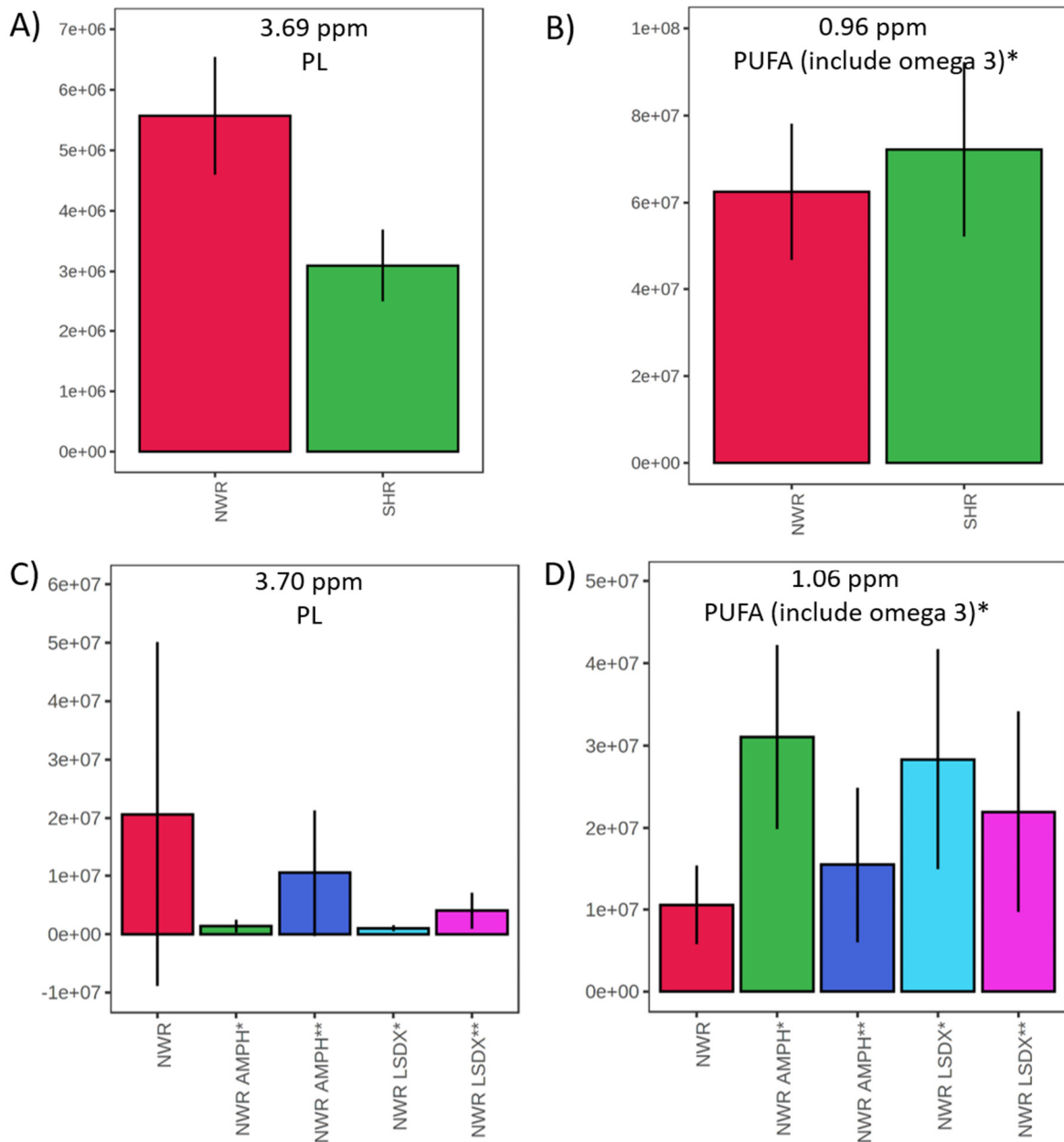


Figure S2. Graphical summary (mean \pm SD) for the variation of some lipids in animal serum samples. A) polar lipids (PL) in SHR and NWR; B) apolar lipids, such as linolenic acid, omega-3 (Ln), in SHR and NWR, C) polar lipids, such as linoleic acid, omega-6 (L), in NWR after acute administration of psychostimulants LSDX or AMPH; D) apolar lipids, such as linolenic acid, omega-3 (Ln), in NWR after acute administration of psychostimulants LSDX or AMPH, using two different doses: *0.5 mg/kg and **5.0 mg/kg.

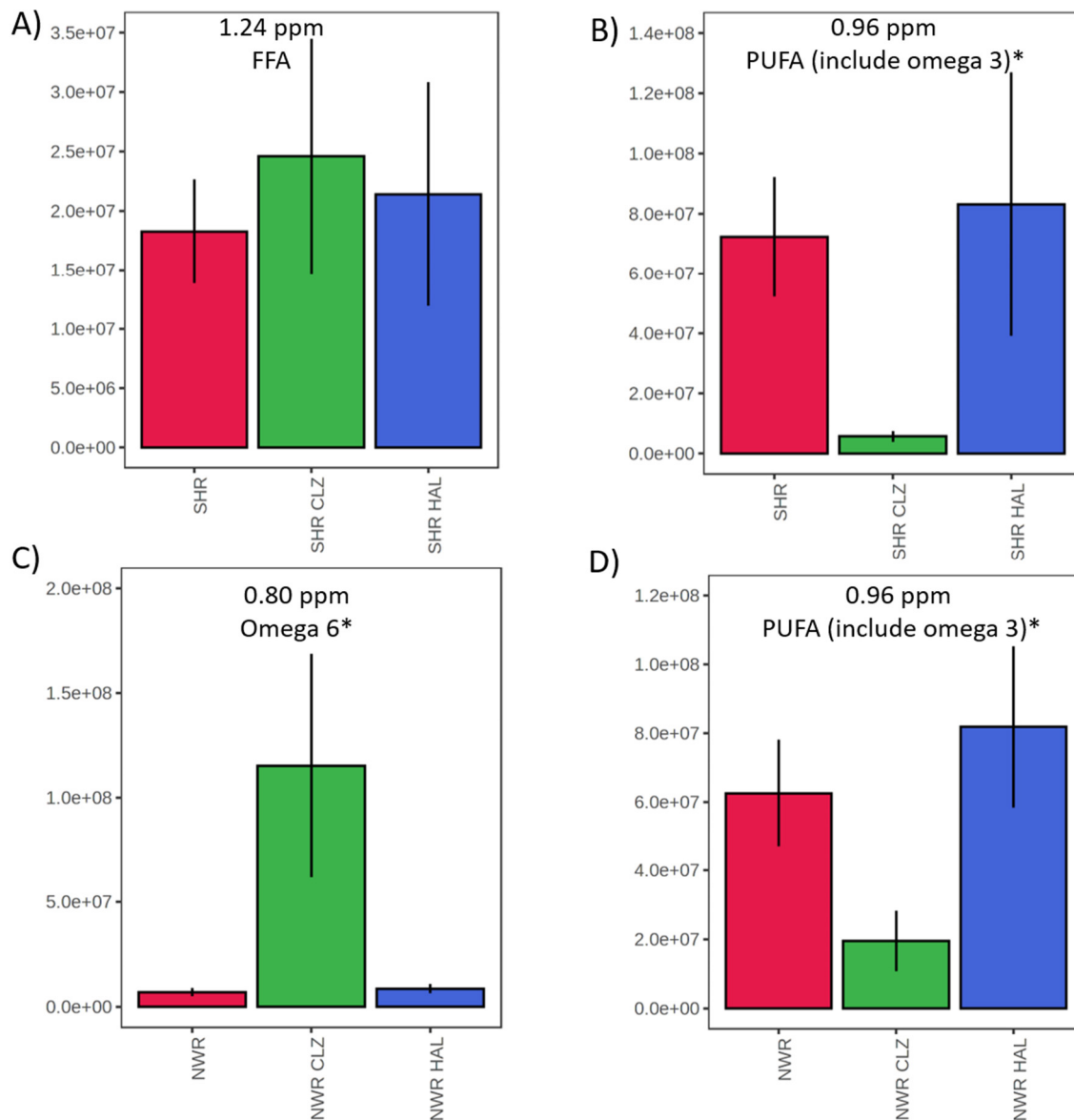


Figure S3. Graphical summary (mean \pm SD) for variations of some lipids in animal serum samples after long-term treatment with antipsychotics - typical haloperidol (HAL) or atypical clozapine (CLZ): A) free fatty acids (FFA) in SHR, B) omega-3 in SHR, C) omega-6 in NWR, and D) omega-3 in NWR. * Other free fatty acids and polyunsaturated fatty acids (PUFA) are present.

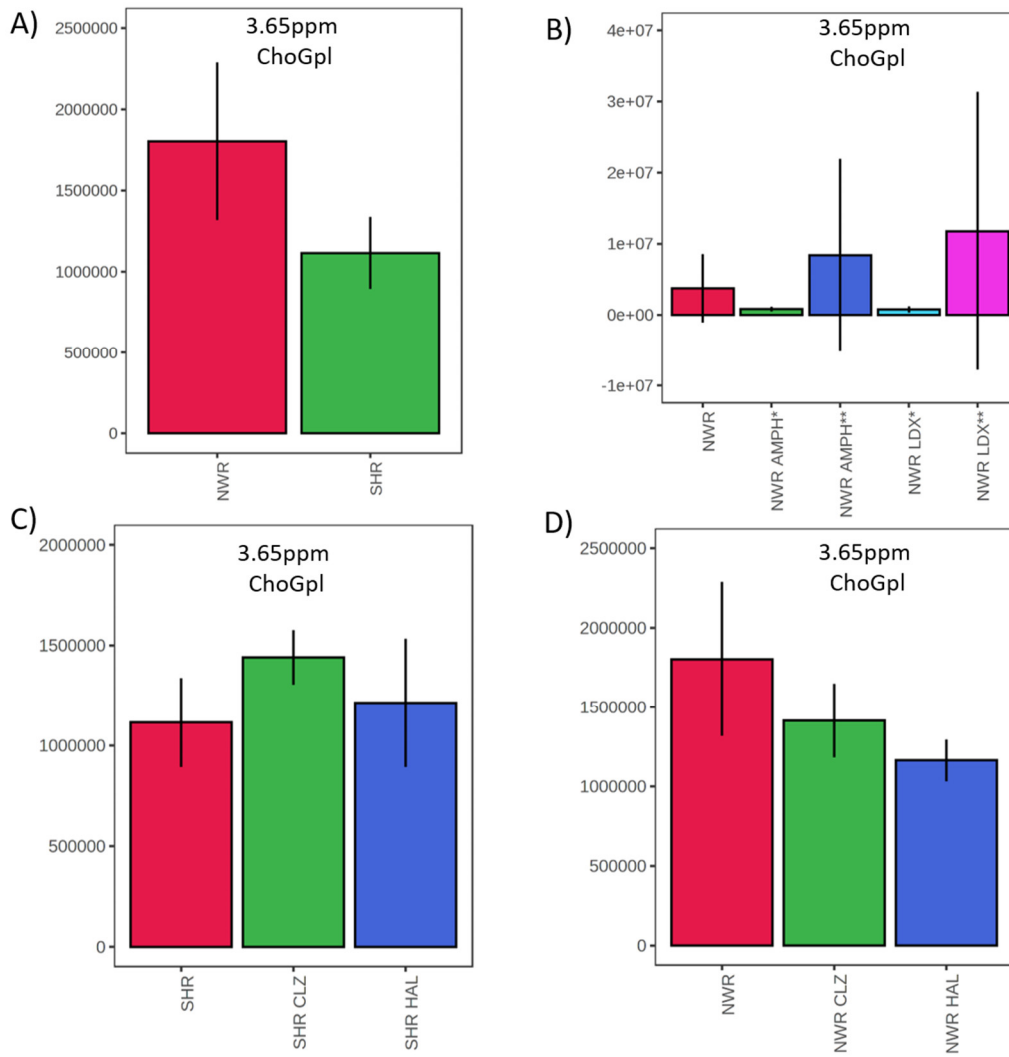


Figure S4. Graphical summary (mean \pm SD) for choline glycerophospholipids (ChoGpl) in investigated animal serum samples. A) NWR and SHR, B) NWR after acute administration of psychostimulants LSDX or AMPH (*0.5 mg/kg and **5.0 mg/kg), C) SHR after treatment with antipsychotics - clozapine (CLZ) or haloperidol (HAL), D) NWR after long-term treatment with antipsychotics - typical haloperidol (HAL) or atypical clozapine (CLZ).