

## CORRECTION

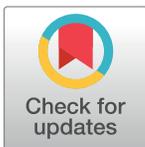
# Correction: Effects of paternal arachidonic acid supplementation on offspring behavior and hypothalamus inflammation markers in the mouse

**Atenea Vázquez-Sánchez, Dalia Rodríguez-Ríos, Danna Colín-Castelán, Jorge Molina-Torres, Enrique Ramírez-Chávez, Gloria del Carmen Romo-Morales, Silvio Zaina, Gertrud Lund**

There are errors in Figs 2 to 6. In Fig 2, the ANOVA female, Founder AA/SBO should have been 0 not 1. Consequently, the Figs 3, 4, and 6 are uploaded incorrectly.

In Fig 5, the Y-axis of blood should be "% SFA/total FA" not "% SFA and MUFA/total FA". Then, the FOUNDER AA/SBO in males in the Venn diagram should be 5 not 4. Meanwhile, the FOUNDER AA/SBO in female and males in Venn diagram of HF-brain is 1 and 1, respectively.

Moreover, the S2 and S3 Tables are uploaded incorrectly. The authors have provided the correct version of Figs 2 to 6 and S2 and S3 Tables here.

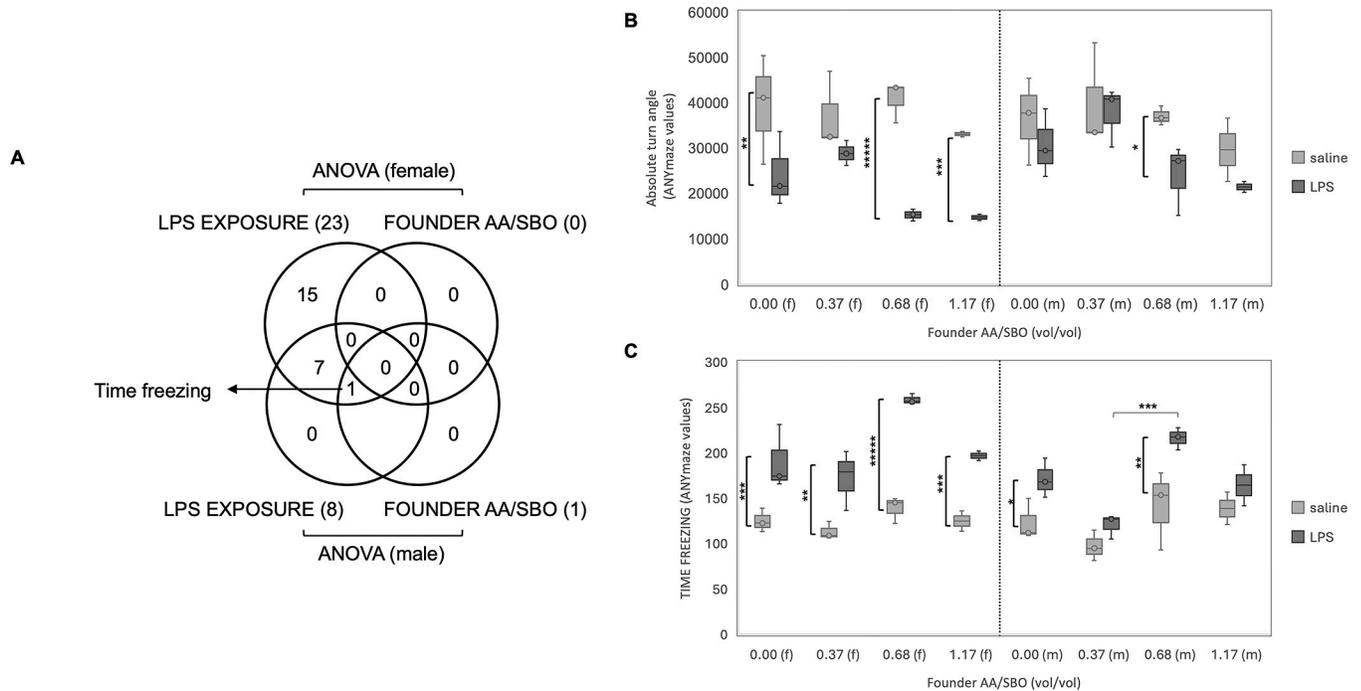


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**Fig 2. Female and male OFT behaviors associated with LPS exposure and/or founder AA/SBO.** A) Venn diagrams of significant OFT behaviors in female and male progeny (ANOVA, Bonferroni adjusted  $p < 0.00167$ ); B) Representative OFT behavior that responded more significantly to LPS exposure in female compared to male offspring; C) OFT behavior that differed across AA/SBO 1.17 in LPS-exposed males; f, females, m, males; \*, \*\*, \*\*\*, \*\*\*\*, \*\*\*\*\* ,  $p < 0.05, 0.01, 0.001, 10^{-4}$  and  $10^{-5}$ , respectively (Scheffé's *post hoc* and t-test; solid and dotted brackets, respectively). <https://doi.org/10.1371/journal.pone.0300141.g002>.

<https://doi.org/10.1371/journal.pone.0307828.g001>

OFT behavior	ANY-maze values across AA/SBO groups (mean ± SD)																Scheffé's <i>post hoc</i> analysis (saline versus LPS exposed AA/SBO groups)							
	FEMALE PROGENY								MALE PROGENY								FEMALE PROGENY				MALE PROGENY			
	0.00	0.37	0.68	1.17	0.00	0.37	0.68	1.17	0.00	0.37	0.68	1.17	0.00	0.37	0.68	1.17	0.00	0.37	0.68	1.17				
Distance	saline 20.61±1.85	20.47±1.95	21.50±4.27	17.54±3.58	18.9±5	22.41±5.64	20.39±4.73	16.65±3.56	3.80E-04	5.10E-03	1.23E-07	6.79E-04	2.93E-02	6.87E-02	2.70E-04	1.58E-01								
Comers distance	saline 11.48±1.33	11.87±0.52	12.33±1.30	10.55±1.57	10.95±2.22	13.08±3.25	11.27±2.04	10.25±2.59	7.55E-04	8.45E-03	1.40E-08	4.39E-05	1.51E-02	1.12E-01	1.85E-03	1.64E-01								
Center distance	saline 0.93±0.26	1.36±0.77	1.17±1.06	0.83±0.86	1.13±0.80	0.68±0.29	1.17±0.68	0.74±0.3	1.97E-01	7.86E-03	7.00E-02	2.00E-01	5.87E-01	6.51E-01	6.49E-03	5.06E-01								
Line crossings	saline 114.33±13.07	111.33±19.77	115.33±27.93	105.16±20.23	114.33±34.8	121.62±1.41	114.83±38	79.16±23.98	2.28E-03	1.44E-02	8.39E-06	1.19E-03	7.66E-03	5.38E-02	2.00E-04	3.42E-01								
Comers Number line crossings	saline 50.33±2.22	48.83±7.53	48.16±4.78	46.00 ± 4.09	48.83±12.95	55.45±9.55	47.41±6	36.33±10.53	3.27E-03	3.75E-02	2.18E-05	1.22E-03	3.60E-03	2.15E-02	8.50E-04	3.32E-01								
Center Number line crossings	saline 7.00±2.89	9.66±4.92	10.49±5	6.54±8	9.16±7.02	5.6±2.5	11.5±10.32	4.5±2.34	2.24E-01	2.03E-02	9.63E-02	2.02E-01	3.89E-01	6.58E-01	3.36E-03	6.89E-01								
Comers entries	saline 4.97±56	4.78±62	4.46±65.81	4.56±66.08	48.33±12.95	54.6±10.54	45.16±9.96	35.5±10.5	4.11E-03	2.99E-02	9.17E-05	1.36E-03	1.82E-03	1.42E-02	5.10E-04	1.27E-01								
Center entries	saline 7.16±2.78	10.16±4.95	10.33±10.32	6.83±8.7	9.16±7.02	5.6±2.28	11.83±10.24	4.83±2.22	2.33E-01	1.98E-02	4.58E-02	1.91E-01	4.81E-01	7.25E-01	2.40E-03	6.57E-01								
Mean freezing score	saline 40.6±2.37	41.68±2.90	38.73±3.98	38.96±3.43	39.68±4.24	45.14±4.74	37.13±8.89	38.75±4.48	9.50E-03	1.69E-01	1.00E-05	1.58E-03	5.71E-02	1.41E-01	1.79E-02	4.08E-02								
Time freezing	saline 124.88±19.46	113.18±13.08	138.68±28.43	128.51±27.14	123.53±34.84	93.36±21.9	141.35±41.5	132.61±29.22	4.90E-03	1.06E-02	2.21E-06	8.23E-03	3.19E-02	2.38E-01	1.12E-03	5.07E-02								
Comers time freezing	saline 88.71±19.14	78.88±13.64	101.13±22.95	103.33±0.04	80.33±0.04	69.64±11.34	94.63±35.23	101.33±32.86	3.47E-03	4.25E-03	4.50E-04	5.93E-02	1.69E-02	1.64E-01	1.63E-03	5.96E-02								
Absolute turn angle	saline 39287.16±11188.58	37143.65±9348.33	40746.54±381.46	32865.33±9950.52	36434.83±8958.05	41285.21±1691.56	36976.33±4028.07	31945.54±9099.7	2.21E-03	7.93E-02	1.40E-06	3.23E-04	2.46E-01	4.96E-01	1.21E-02	6.58E-02								
Comers absolute turn angle	saline 26575.66±8063.35	25956.16±4907.96	28107.83±6002.46	23103.66±5412.4	24669.52±7635.89	28567.62±9032.18	24289.83±2469.49	23541.66±7387.72	9.14E-03	1.05E-01	2.30E-06	3.09E-04	4.05E-01	6.79E-01	5.24E-02	8.68E-02								
Mean speed	saline 0.06±0.00	0.06±0.00	0.07±0.01	0.05±0.01	0.06±0.01	0.07±0.01	0.06±0.01	0.05±0.01	3.40E-04	6.28E-03	1.46E-07	6.28E-04	1.36E-01	2.22E-01	2.99E-01	3.54E-01								
Comers average speed	saline 0.03±0.02	0.04±0.00	0.02±0.00	0.02±0.00	0.04±0.01	0.05±0.00	0.04±0.01	0.04±0.01	2.36E-04	1.81E-03	1.37E-08	2.53E-04	5.46E-02	1.98E-01	3.78E-01	4.29E-01								
Time mobile	saline 266.3±16.57	256.66±16.82	255.53±22.52	270.03±12.95	255±21.35	269.14±7.11	267.91±14.83	263.23±18.25	1.78E-03	1.88E-01	2.27E-03	6.34E-02	3.48E-01	8.57E-01	2.97E-02	1.85E-01								
Comers time mobile	saline 176.56±11.94	175.56±12.92	164.91±8.93	189.23±11.12	160.26±9.77	178.04±5.36	187.2±13.04	184.53±23.05	4.23E-03	2.93E-01	4.16E-03	9.14E-03	9.24E-01	3.58E-01	2.05E-01	1.69E-01								
Time immobile	saline 32.91±17.04	43.33±16.82	43.91±21.56	29.51±13.36	44.93±21.34	30.86±7.11	31.4±14.07	36.48±18.33	1.67E-03	9.95E-01	3.05E-03	6.49E-02	3.46E-01	8.63E-01	9.29E-02	2.01E-01								
Comers time immobile	saline 11.92±70.59	74.83±22.22	118.81±32.81	74.8±73.79	64.5±32.2	34.61±21.06	77.76±62.23	64.48±63.78	3.73E-03	8.18E-02	3.16E-02	1.76E-01	2.54E-01	8.62E-01	2.80E-02	1.36E-01								
Comers mean visit	saline 4.01±0.47	4.33±0.98	4.41±0.93	4.71±0.91	4.18±1.36	3.76±0.71	4.38±1.21	4.43±2.19	1.95E-01	5.15E-01	5.66E-02	2.29E-03	4.70E-01	7.04E-01	1.56E-02	1.65E-01								
Comers time	saline 228.6±43.12	226.58±22.62	205.62±4.79	206.25±52.54	206.86±14.67	216.18±9.97	210.8±25.72	218.6±35.29	3.33E-02	3.95E-01	3.75E-03	2.66E-02	9.66E-02	1.70E-01	5.08E-02	4.90E-01								
Rotations	saline 9.33±3.77	8.66±1.36	7.83±1.18	9.33±2.65	8.83±2.63	9.6±2.5	6.5±2.58	7.83±3.06	1.30E-02	2.93E-01	3.88E-02	7.47E-02	2.30E-01	8.01E-01	2.30E-01	8.90E-01								
Clockwise rotations	saline 5.5±3.20	7.16±2.92	2.50±1.87	5.33±1.17	7.83±4	10.6±2.5	4.66±2.42	7.2±1.09	8.18E-01	1.88E-01	1.26E-03	8.14E-02	7.94E-02	3.37E-01	3.74E-01	9.77E-01								
Total significant behaviors																	18	12	21	14	7	2	8	1
% of total significant behaviors																	78	52	91	61	88	25	100	13

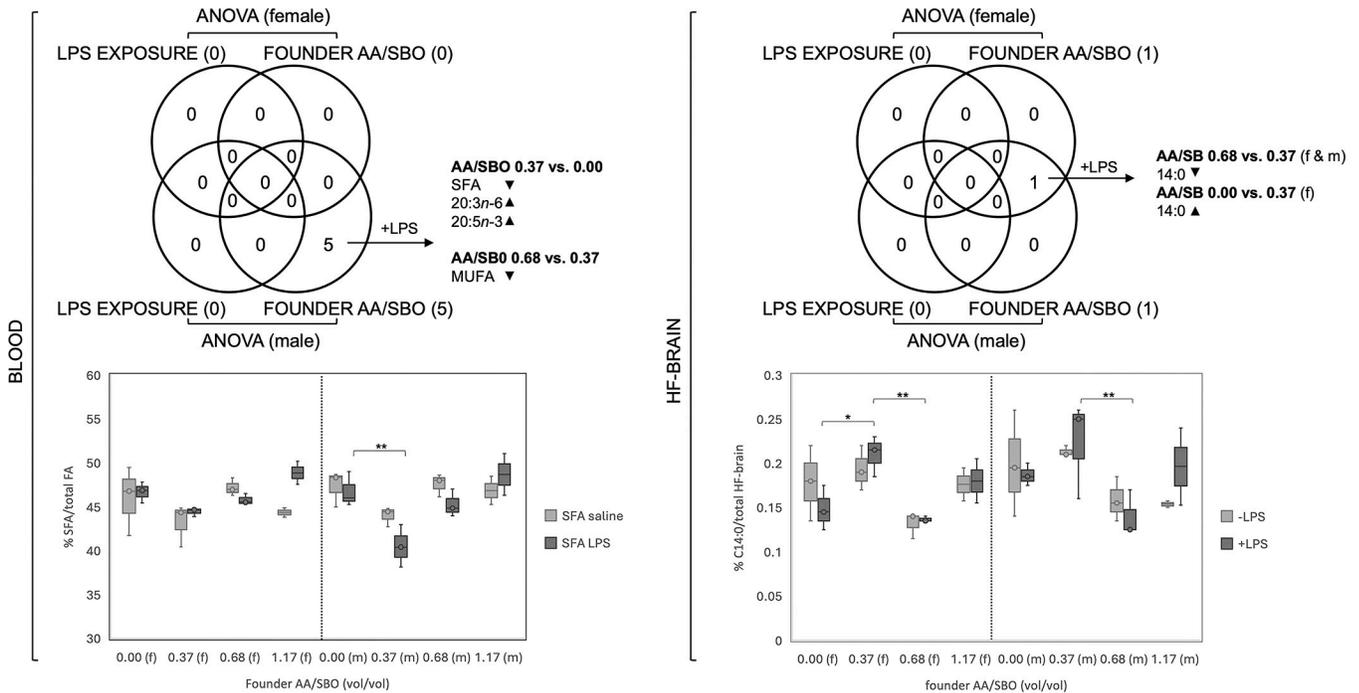
**Fig 3. Scheffé's *post hoc* analysis of progeny OFT behaviors that differed across saline-exposed and LPS-exposed AA/SBO groups.** \*OFT behaviors that showed significance following ANOVA (Bonferroni adjusted  $p < 0.00167$ ) and Scheffé's *post hoc* analysis ( $p < 0.05$ , in bold); mean,  $n = 6$ /experimental group. <https://doi.org/10.1371/journal.pone.0300141.g003>.

<https://doi.org/10.1371/journal.pone.0307828.g002>

	FEMALE PROGENY (Scheffé's post hoc analysis within saline-exposed and LPS-exposed AA/SBO groups)												MALE PROGENY (Scheffé's post hoc analysis within saline-exposed and LPS-exposed AA/SBO groups)											
	saline-exposed						LPS-exposed						saline-exposed						LPS-exposed					
	0.00 vs.:	0.37 vs.:	0.68 vs.:	0.00 vs.:	0.37 vs.:	0.68 vs.:	0.00 vs.:	0.37 vs.:	0.68 vs.:	0.00 vs.:	0.37 vs.:	0.68 vs.:	0.00 vs.:	0.37 vs.:	0.68 vs.:	0.00 vs.:	0.37 vs.:	0.68 vs.:						
OFT behavior	0.37	0.68	1.17	0.68	1.17	1.17	0.37	0.68	1.17	1.17	1.17	0.37	0.68	1.17	0.37	0.68	1.17	0.68	1.17	1.17				
Time freezing	<b>9.83E-01</b>	<b>9.42E-01</b>	<b>9.99E-01</b>	<b>7.24E-01</b>	<b>9.23E-01</b>	<b>9.76E-01</b>	<b>8.79E-01</b>	<b>3.42E-02</b>	<b>9.88E-01</b>	<b>4.27E-03</b>	<b>7.07E-01</b>	<b>7.59E-02</b>	<b>6.18E-01</b>	<b>8.75E-01</b>	<b>9.81E-01</b>	<b>2.23E-01</b>	<b>3.95E-01</b>	<b>9.83E-01</b>	<b>1.50E-01</b>	<b>2.36E-01</b>	<b>9.93E-01</b>	<b>8.90E-04</b>	<b>1.05E-01</b>	<b>4.17E-01</b>
Total significant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

**Fig 4. Scheffé's post hoc analysis of progeny OFT behaviors affected by founder AA/SBO treatment.** \*OFT behaviour that showed significance following ANOVA (Bonferroni adjusted  $p < 0.00167$ ) and Scheffé's post hoc analysis ( $p < 0.05$ , in bold). <https://doi.org/10.1371/journal.pone.0300141.g004>.

<https://doi.org/10.1371/journal.pone.0307828.g003>



**Fig 5. Female and male blood and HF-brain FA that were associated with LPS exposure and/or founder AA/SBO.** Venn diagrams of significant FA in blood and HF-brain (ANOVA, Bonferroni adjusted  $p < 0.0028$  and  $0.0032$ , respectively) and selected examples in graphs below; +LPS, LPS-exposed progeny; up and downward-pointing arrowheads indicate direction of FA change across AA/SBO groups; f, females; m, males; \*, \*\*, \*\*\*, \*\*\*\*, \*\*\*\*\*,  $p < 0.05$ ,  $0.01$ ,  $0.001$ ,  $10^{-4}$  and  $10^{-5}$ , respectively (Scheffé's post hoc). <https://doi.org/10.1371/journal.pone.0300141.g005>.

<https://doi.org/10.1371/journal.pone.0307828.g004>

Tissue	FA	% FA of AA/SBO progeny groups (mean ± SD)												Scheffé's post hoc analysis between AA/SBO following LPS exposure											
		FFEMALE PROGENY						MALE PROGENY						FEMALE PROGENY						MALE PROGENY					
		0.00	0.37	0.68	1.17	0.00	0.37	0.68	1.17	0.00 vs.:	0.37 vs.:	0.68 vs.:	1.17	0.00 vs.:	0.37 vs.:	0.68 vs.:	1.17								
BLOOD	SFA	saline	45.97±3.79	43.19±2.38	47.16±3.6	44.51±0.93	47.31±2.07	43.98±1.11	47.55±3.15	47.37±2.46	7.85E-01	9.98E-01	9.92E-01	3.60E-01	9.96E-01	8.23E-01	8.95E-01	1.00E+00	1.00E+00	8.56E-01	8.85E-01	1.00E+00			
		lps	46.68±1.69	44.36±1.35	45.76±1.84	48.41±2.1	46.74±3.38	40.54±0.41	45.26±1.67	47.23±2.92	9.22E-01	1.00E+00	9.79E-01	9.96E-01	3.93E-01	8.22E-01	<b>3.89E-02</b>	<b>9.92E-01</b>	1.00E+00	3.09E-01	5.26E-02	<b>9.85E-01</b>			
	MUFA	saline	20.59±0.63	20.15±0.75	20.25±1.58	22.08±2.67	21.07±2.29	23.3±3.57	20.1±1.17	22.02±1.08	1.00E+00	1.00E+00	8.79E-01	1.00E+00	6.62E-01	7.20E-01	8.74E-01	9.96E-01	9.97E-01	5.23E-01	9.94E-01	8.43E-01			
		lps	22.16±1.52	20.83±0.83	19.4±1.56	20.73±1.23	21.18±0.83	23.5±2.25	19.31±1.38	20.44±2.15	9.47E-01	2.11E-01	9.01E-01	9.21E-01	1.00E+00	9.32E-01	6.78E-01	7.87E-01	9.98E-01	4.65E-02	3.70E-01	9.93E-01			
HF-BRAIN	14:0	saline	19.59±0.75	19.04±0.96	19.16±1.48	21.19±2.77	20.27±2.44	21.85±3.22	19.13±1.12	21.12±1.14	1.00E+00	1.00E+00	8.83E-01	1.00E+00	5.81E-01	6.52E-01	9.73E-01	9.86E-01	9.98E-01	6.64E-01	1.00E+00	7.75E-01			
		lps	21.12±1.68	19.81±0.92	18.3±1.57	19.82±1.28	20.26±0.46	22.12±2.08	18.32±1.23	19.46±2.02	9.60E-01	2.32E-01	9.50E-01	9.17E-01	1.00E+00	9.98E-01	8.44E-01	7.19E-01	9.97E-01	7.20E-02	5.03E-01	9.90E-01			
	20:3n-3	saline	1.2±0.22	1.59±0.17	1.34±0.15	1.15±0.35	0.88±0.33	1.24±0.18	1.08±0.24	1.04±0.24	7.05E-01	1.00E+00	1.00E+00	8.60E-01	4.57E-01	9.98E-01	9.74E-01	9.95E-01	1.00E+00	1.00E+00	9.97E-01	7.28E-01			
		lps	1.13±0.37	1.53±0.22	1.43±0.32	1.21±0.33	0.89±0.14	1.55±0.34	1.32±0.08	1.15±0.39	6.27E-01	1.00E+00	1.00E+00	7.75E-01	3.72E-01	1.00E+00	<b>1.94E-02</b>	<b>1.93E-01</b>	9.17E-01	9.88E-01	5.13E-01	9.50E-01			
20:3n-6	saline	3.04±0.29	3.70±0.42	3.15±0.37	2.89±0.79	2.79±0.42	3.19±0.44	3.04±0.51	2.91±0.56	5.97E-01	9.98E-01	1.00E+00	9.33E-01	4.36E-01	9.87E-01	9.56E-01	9.99E-01	1.00E+00	9.98E-01	9.91E-01	1.00E+00				
	lps	3.05±0.38	3.79±0.51	3.09±0.5	3.06±0.75	2.65±0.19	3.73±0.41	3.45±0.54	3.06±0.30	6.38E-01	8.55E-01	1.00E+00	1.00E+00	8.40E-01	1.00E+00	<b>1.47E-02</b>	<b>2.97E-01</b>	8.84E-01	9.36E-01	5.13E-01	1.00E+00				
Total significant, blood										0	0	0	0	0	3	0	0	0	1	0	0	0			
Total significant, HF-brain										1	0	0	1	0	0	0	0	0	0	1	0	0			

**Fig 6. Scheffé's post hoc analysis of offspring OFT behaviors that differed across saline-exposed and LPS-exposed AA/SBO groups.** \*Fatty acids (FA) that showed significance following ANOVA (Bonferroni adjusted  $p < 0.0028$  and  $0.0031$ , respectively for individual FA,  $p < 0.0167$  for FA grouped by saturation) and Scheffé's post hoc analysis ( $p < 0.05$ , in bold); mean,  $n = 6$ /experimental group. <https://doi.org/10.1371/journal.pone.0300141.g006>.

<https://doi.org/10.1371/journal.pone.0307828.g005>

## Reference

1. Vázquez-Sánchez A, Rodríguez-Ríos D, Colín-Castelán D, Molina-Torres J, Ramírez-Chávez E, Romo-Morales GdC, et al. (2024) Effects of paternal arachidonic acid supplementation on offspring behavior and hypothalamus inflammation markers in the mouse. *PLoS ONE* 19(3): e0300141. <https://doi.org/10.1371/journal.pone.0300141> PMID: 38512839