

Supplementary Materials

Table S1. The effect of zinc (Zn) on the concentration of cadmium (Cd) in the liver and kidney of rats ^{1,2,3}.

Control (mean ± standard error)	Effect of Cd alone	5 mg Cd/L + 30 mg Zn/L		5 mg Cd/L + 60 mg Zn/L	
		Effect of Cd + Zn	Effect of Zn	Effect of Cd + Zn	Effect of Zn
Liver					
0.0369 ± 0.0049 µg/g	↑ 37-fold ^{a†}	↑ 27-fold ^{a†}	✓ 28% ^{d*}	↑ 25-fold ^{a†}	✓ 33% ^{d*}
Kidney					
0.0694 ± 0.0040 µg/g	↑ 114-fold ^{a†}	↑ 93-fold ^{a†}	✓ 18% ^{d*}	↑ 89-fold ^{a†}	✓ 22% ^{d*}

¹ The rats received 5 mg Cd/L of drinking water and 30 or 60 mg Zn/L of drinking water for 6 months. ² Table presents changes in Cd concentration (Kruskal-Wallis post hoc test; * $p < 0.05$, † $p < 0.001$): a vs. Control group (↑, fold of increase), d vs. Cd group (✓, percentage decrease). ³ Detailed data on the impact of Zn on the concentration of Cd in the organism of rats exposed to this xenobiotic have already been published [11,12].

Table S2. Interactive and main effects of cadmium (Cd) and zinc (Zn) on the concentration of Cd in the brain tissue of male rats ¹.

5 mg Cd/L + 30 mg Zn/L				5 mg Cd/L + 60 mg Zn/L			
Main Effect of Cd	Main Effect of Zn	Interactive Effect of Cd + Zn	Cd + Zn Effect vs. Cd Effect + Zn Effect <i>Character of Cd – Zn Interaction</i>	Main Effect of Cd	Main Effect of Zn	Interactive Effect of Cd + Zn	Cd + Zn Effect vs. Cd Effect + Zn Effect <i>Character of Cd – Zn Interaction</i>
22.42 †	NS	NS	No interaction	17.71 †	NS	NS	No interaction

¹ The outcomes of the ANOVA/MANOVA statistical test are expressed as F values and the level of statistical significance (p). F values having $p < 0.05$ are recognized statistically significant († $p < 0.001$). NS – not statistically significant ($p > 0.05$).

Table S3. Mutual dependencies between the indices of oxidative/antioxidative status of the brain tissue of male rats ¹.

Parameter	SOD	CAT	GPx	GR	TSH	PSH	GSH	GSSG	GSH/ GSSG	TAS	H ₂ O ₂	MPO	TOS	OSI	LPO	MDA	8-Isoprostane
SOD	-																
CAT	0.388 [†]	-															
GPx	0.414 [†]	0.294 [*]	-														
GR	-0.448 [†]	NS	-0.308 [*]	-													
TSH	NS	NS	NS	-0.333 [*]	-												
PSH	NS	NS	NS	NS	NS	-											
GSH	NS	NS	NS	NS	NS	NS	-										
GSSG	NS	NS	NS	0.478 [‡]	NS	NS	NS	-									
GSH/GSSG	NS	NS	NS	NS	NS	NS	0.608 [‡]	-0.658 [‡]	-								
TAS	0.472 [‡]	NS	NS	NS	0.429 [†]	NS	0.430 [†]	NS	NS	-							
H₂O₂	NS	-0.371 [†]	NS	0.391 [†]	-0.315 [*]	NS	-0.392 [†]	0.429 [†]	-0.618 [‡]	NS	-						
MPO	-0.398 [†]	NS	-0.411 [†]	0.651 [‡]	-0.316 [*]	NS	NS	0.633 [‡]	-0.369 [†]	NS	NS	-					
TOS	NS	-0.386 [†]	-0.428 [‡]	0.348 [*]	-0.422 [†]	NS	-0.278 [#]	NS	-0.282 [#]	-0.288 [*]	0.422 [†]	0.336 [*]	-				
OSI	-0.360 [*]	-0.470 [‡]	0.475 [‡]	0.337 [*]	-0.517 [‡]	NS	-0.447 [†]	NS	-0.278 [#]	-0.579 [‡]	0.426 [†]	0.318 [*]	0.901 [‡]	-			
LPO	-0.461 [‡]	-0.392 [†]	-0.327 [*]	0.496 [‡]	-0.245 [#]	NS	-0.357 [†]	NS	-0.386 [†]	-0.280 [#]	0.485 [‡]	0.285 [*]	NS	0.352 [†]	-		
MDA	-0.294 [*]	NS	-0.385 [†]	0.494 [‡]	NS	NS	NS	0.462 [‡]	-0.475 [‡]	NS	NS	0.707 [‡]	0.368 [*]	0.328 [*]	0.430 [†]	-	
8-Isoprostane	NS	-0.366 [†]	NS	0.419 [†]	-0.361 [*]	NS	-0.367 [†]	0.403 [†]	-0.563 [‡]	NS	0.595 [‡]	0.452 [†]	0.537 [‡]	0.502 [‡]	0.285 [*]	0.516 [‡]	-
PC	-0.470 [‡]	NS	-0.375 [†]	0.476 [‡]	-0.197 [#]	NS	-0.311 [*]	0.365 [†]	-0.391 [†]	-0.429 [†]	0.312 [*]	0.593 [‡]	0.324 [*]	0.406 [†]	0.307 [*]	0.501 [‡]	NS

¹ Data are expressed as *r* values and the level of statistical significance (*p*). The values of *r* with *p* < 0.05 were considered statistically significant (* *p* < 0.05, [†] *p* < 0.01, [‡] *p* < 0.001, [#] *p* = 0.05). NS – not statistically significant (*p* > 0.05). SOD, superoxide dismutase; CAT, catalase; GPx, glutathione peroxidase; GR, glutathione reductase; TSH, total thiol groups; PSH, protein thiol groups; GSH, reduced glutathione; GSSG, oxidized glutathione; GSH/GSSG, the ratio of reduced glutathione to oxidized glutathione; TAS, total antioxidative status; H₂O₂, hydrogen peroxide; MPO, myeloperoxidase; TOS, total oxidative status; OSI, oxidative stress index; LPO, lipid peroxides; MDA, malondialdehyde; PC, protein carbonyls.