Supplementary

Impact of an Innovative Valerian Extract on Sleep Quality, Relaxation, and GABA/Serotonin Receptor Activity in a Murine Model

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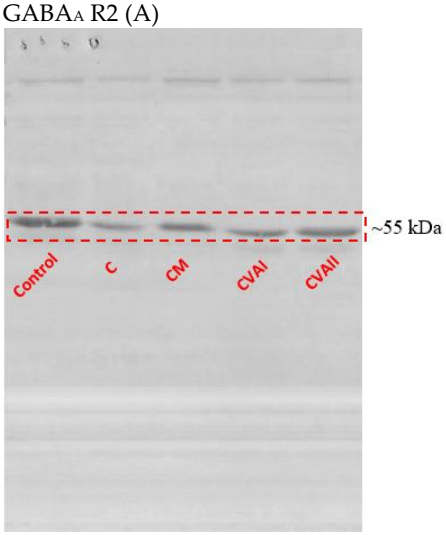
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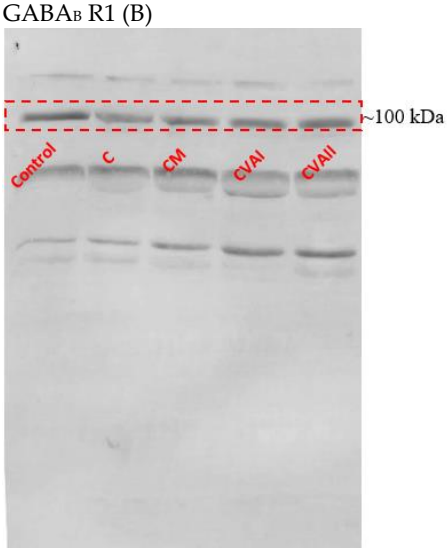
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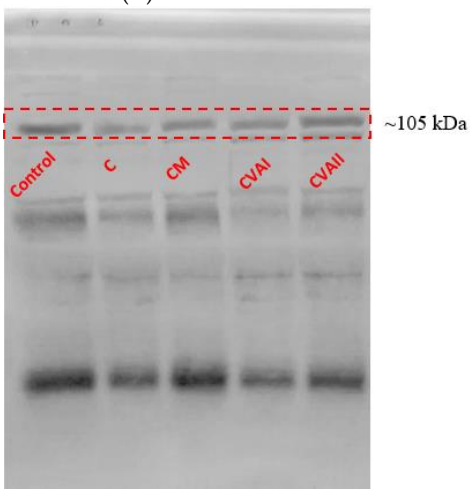
GABA$_A$ R2 (A)



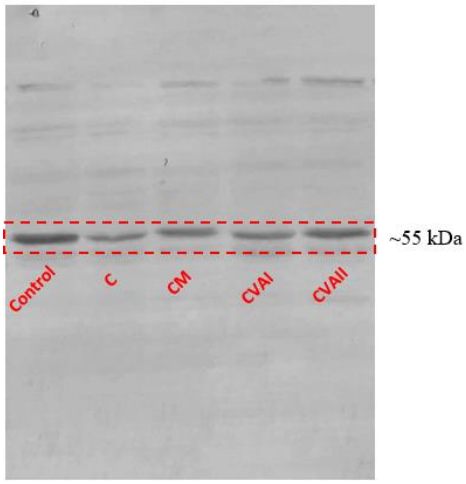
GABA$_B$ R1 (B)



GABA$_B$ R2 (C)



5-HT1A (D)



β-actin (E)

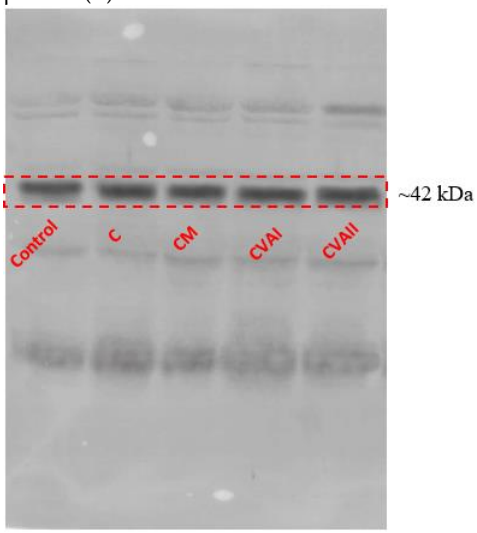
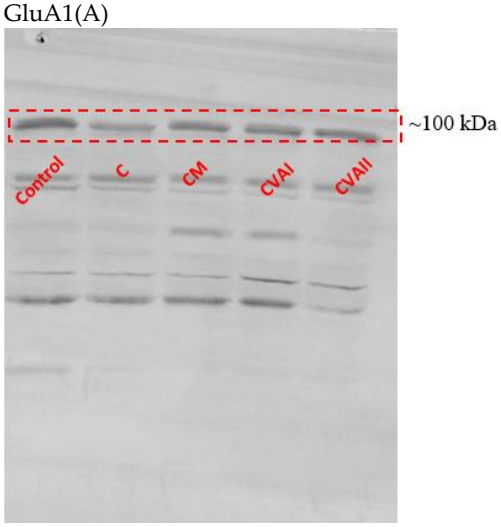
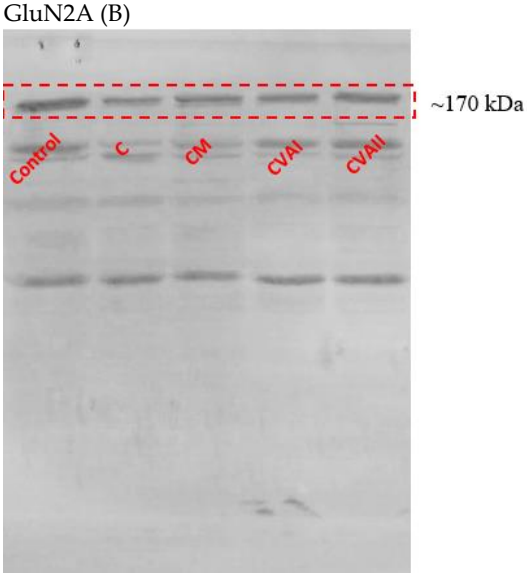


Figure S1. Full immunoblots related to Figure 4 in the main text: The effects of caffeine, melatonin, and valerian extracts (VA) on the brain tissue GABAergic receptors GABAA R2 (A), GABAB R1 (B), GABAB R2 (C), and serotonergic receptor 5-HT1A (D). The densitometric analysis of the relative intensity according to the control group of the Western blotting bands was performed with β-actin normalization to ensure equal protein loading (E). Each immunoblot is a representative of three independent experiments. Red dotted rectangles delineate the results shown in Figure 4 in the main text. M.W. (in kDa) is indicated. Groups: Control: Saline followed by saline, C: Caffeine followed by saline, CM: Caffeine followed by Melatonin (2 mg/kg), CVA I: Caffeine followed by VA-Omni (100 mg/kg), and CVA II: Caffeine followed by VA-Omni (300 mg/kg).

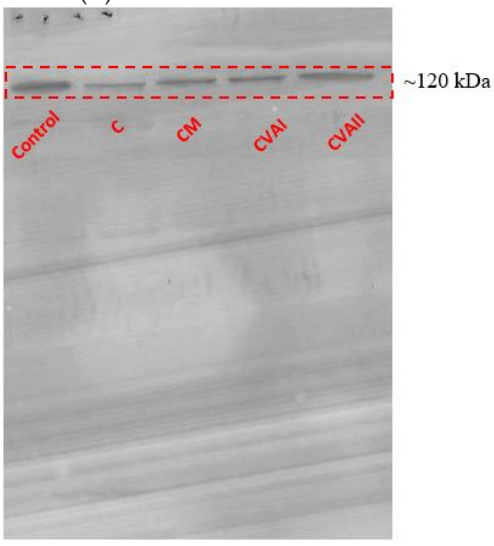
GluA1(A)



GluN2A (B)



GluN1 (C)



β-actin (D)

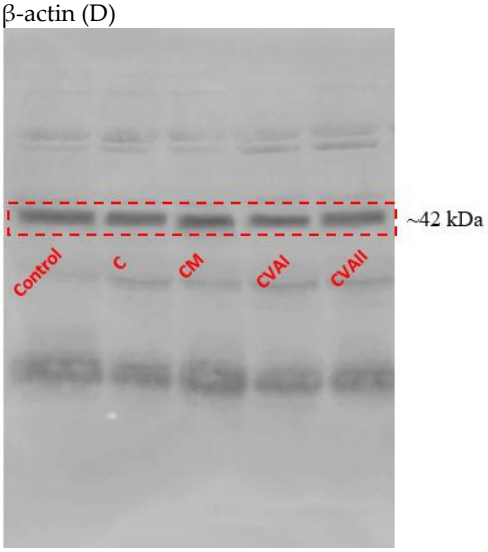
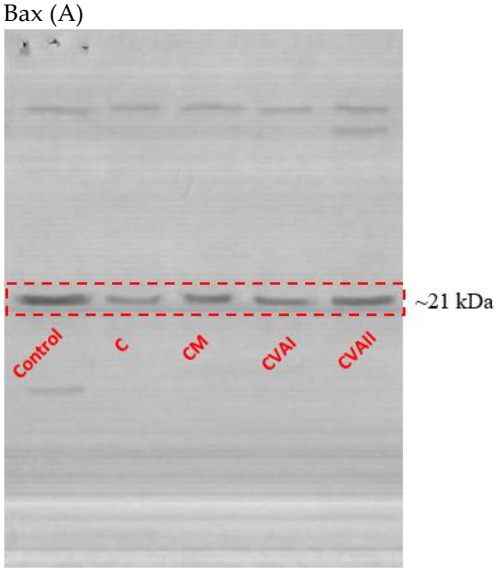
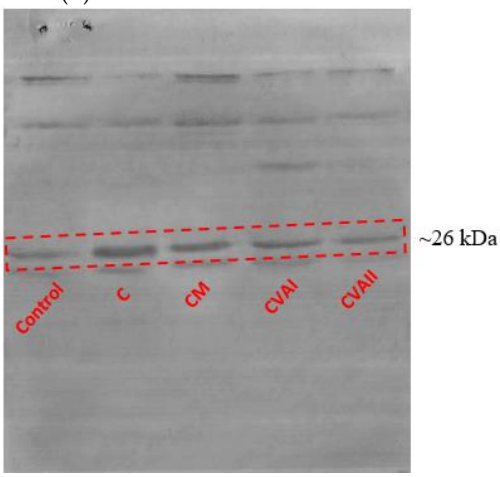


Figure S2. Full immunoblots related to Figure 5 in the main text: The effects of caffeine, melatonin, and valerian extracts (VA) on the brain tissue GluA1(A), GluN2A (B), and GluN1 (C). The densitometric analysis of the relative intensity according to the control group of the Western blotting bands was performed with β-actin normalization to ensure equal protein loading (D). Each immunoblot is a representative of three independent experiments. Red dotted rectangles delineate the results shown in Figure 5 in the main text. M.W. (in kDa) is indicated. Groups: Control: Saline followed by saline, C: Caffeine followed by saline, CM: Caffeine followed by Melatonin (2 mg/kg), CVA I: Caffeine followed by VA-Omni (100 mg/kg), and CVA II: Caffeine followed by VA-Omni (300 mg/kg).

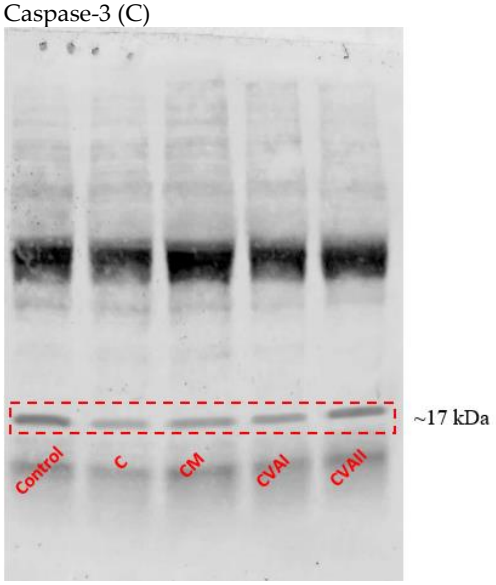
Bax (A)



Bcl-2 (B)



Caspase-3 (C)



β-actin (D)

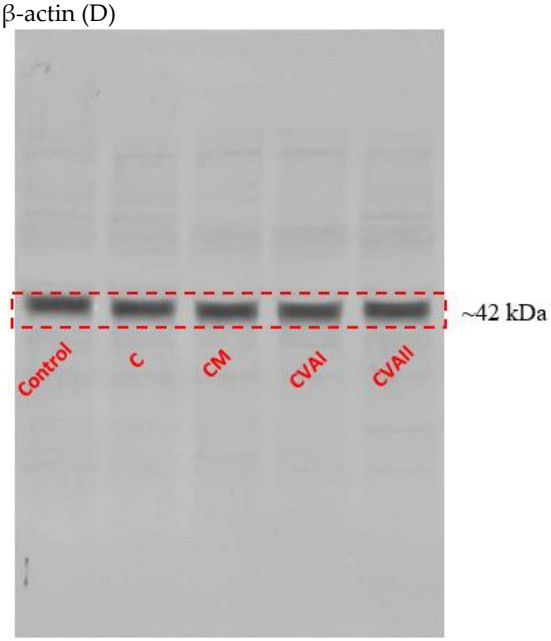


Figure S3. Full immunoblots related to Figure 6 in the main text. The effects of caffeine, melatonin, and valerian extracts (VA) on the brain tissue Bax(A), Bcl-2 (B), and Caspase-3 (C). The densitometric analysis of the relative intensity according to the control group of the Western blotting bands was performed with β-actin normalization to ensure equal protein loading (D). Each immunoblot is a representative of three independent experiments. Red dotted rectangles delineate the results shown in Figure 6 in the main text. M.W. (in kDa) is indicated. Groups: Control: Saline followed by saline, C: Caffeine followed by saline, CM: Caffeine followed by Melatonin (2 mg/kg), CVA I: Caffeine followed by VA-Omni (100 mg/kg), and CVA II: Caffeine followed by VA-Omni (300 mg/kg).