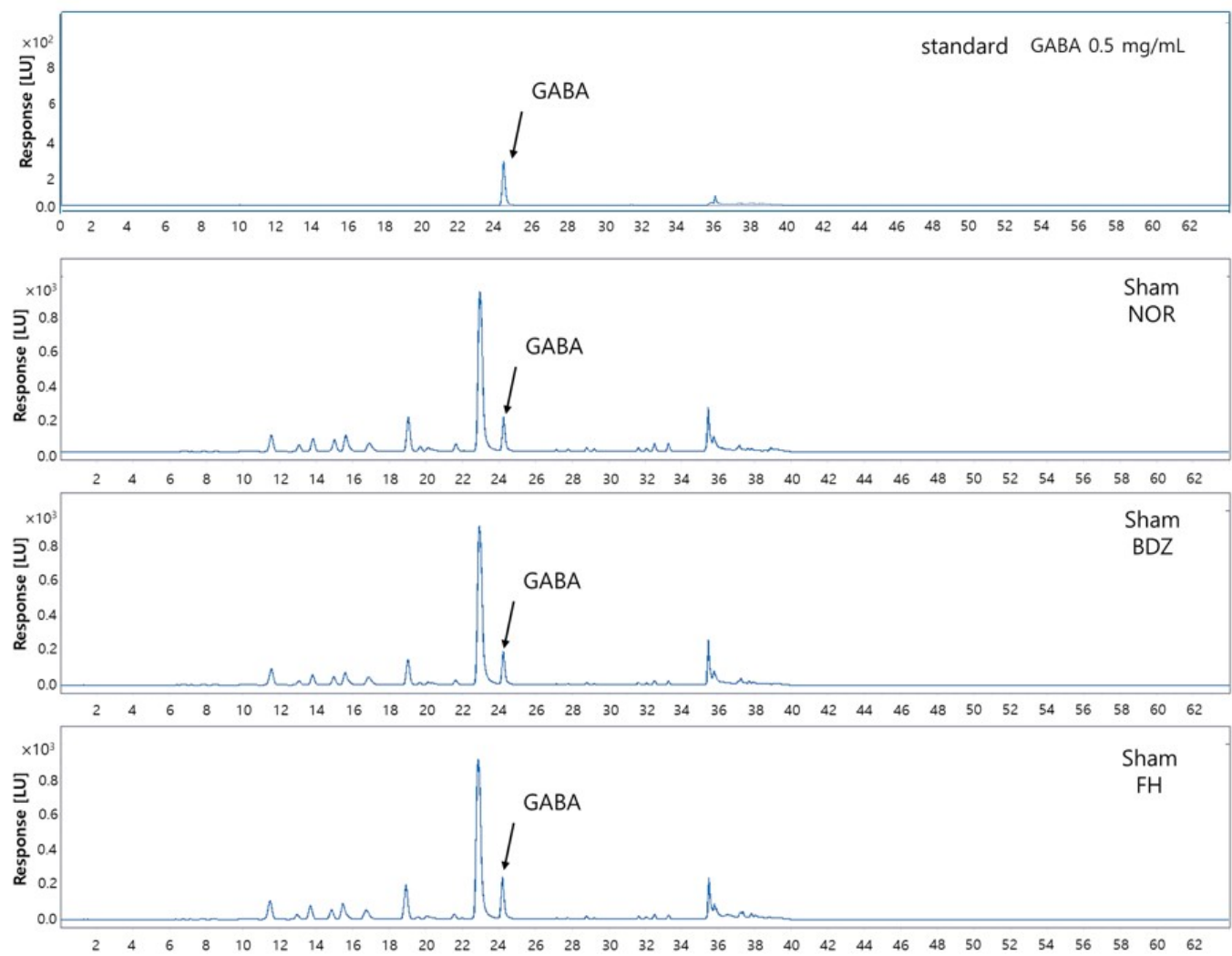
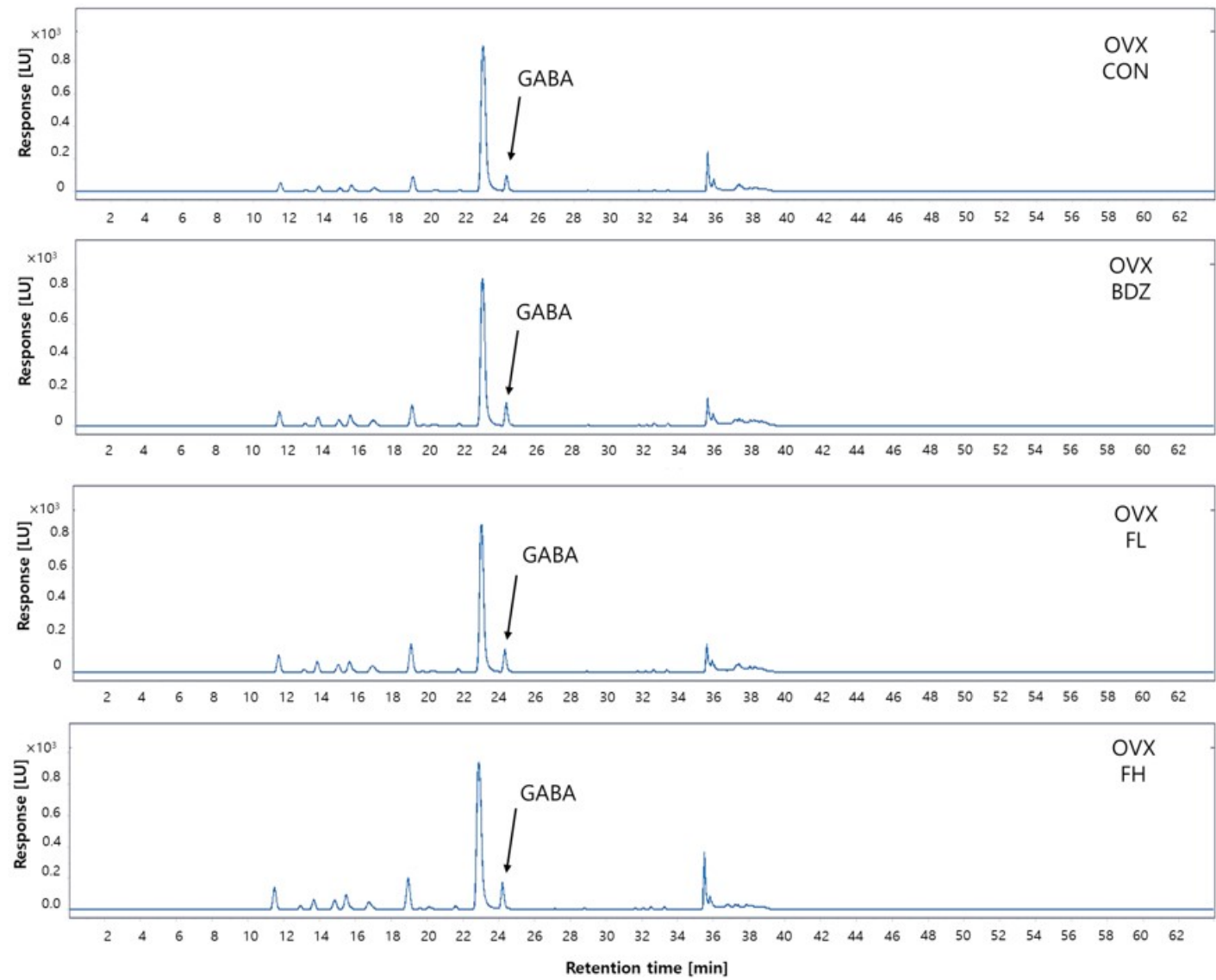


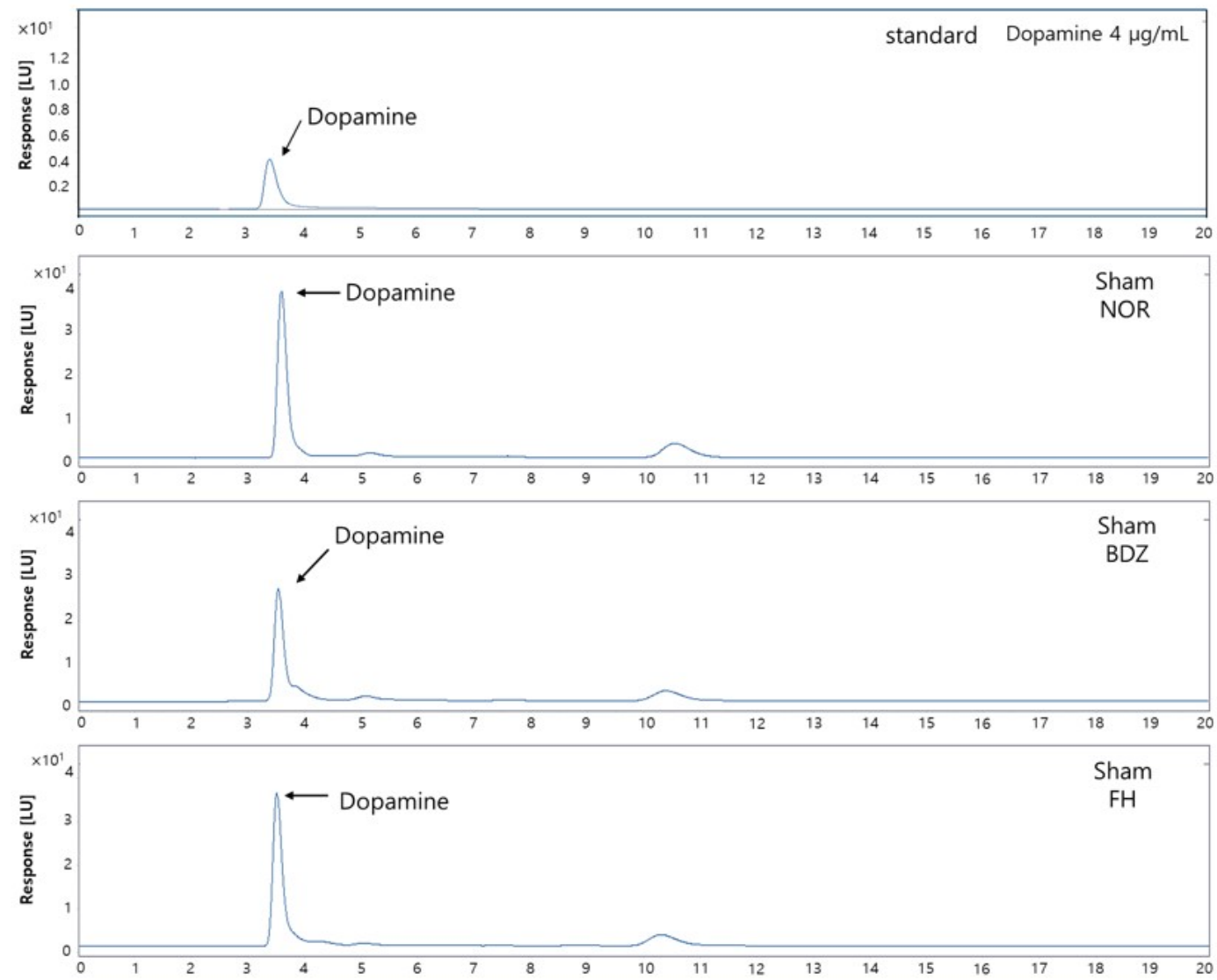
1 **Supplemented data**

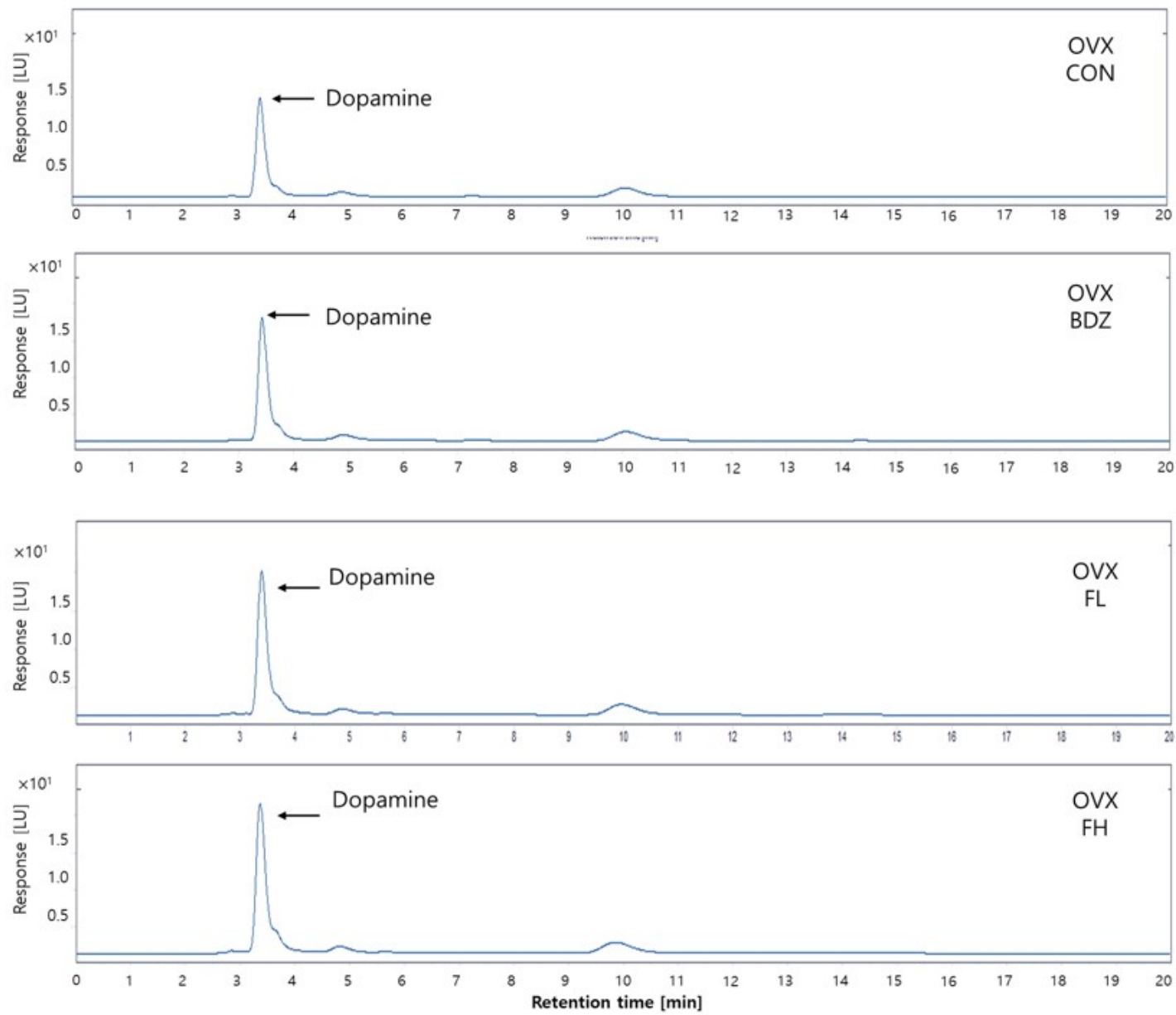
2 (A)





6 (B)





9 **Fig. S1 Chromatograms of GABA and dopamine.** GABA (A) and dopamine (B) levels were analyzed using HPLC on 50 mg of brain tissue
10 from ICR mice. NOR, normal; OVX, ovariectomized; BDZ, benzodiazepine; FL, low dose of FSE (200 mg/kg); FH, high dose of FSE (300
11 mg/kg). These data are representative of three independent experiments.

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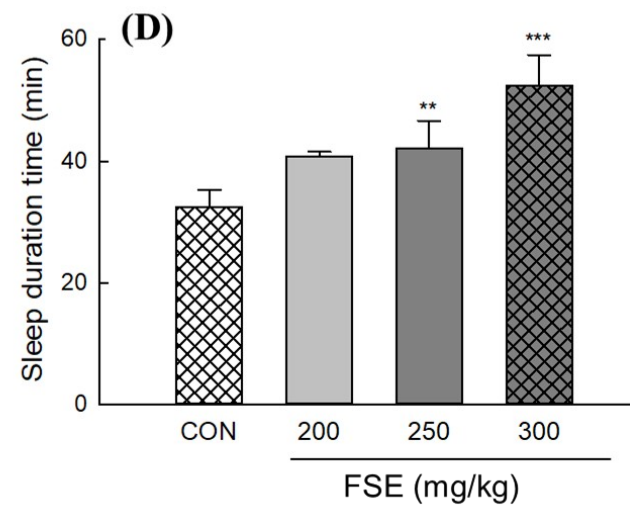
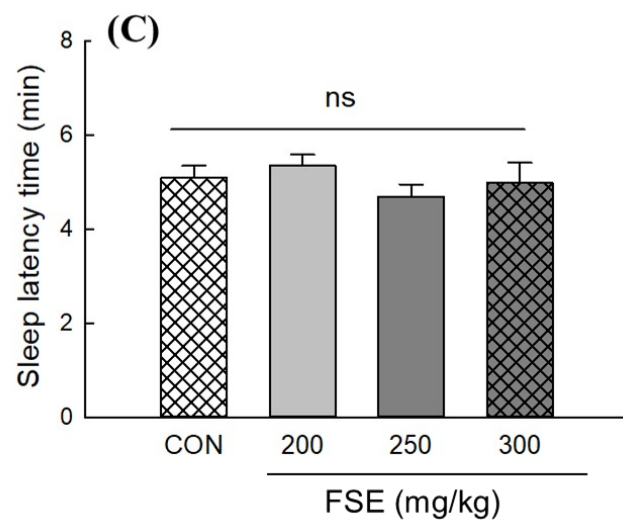
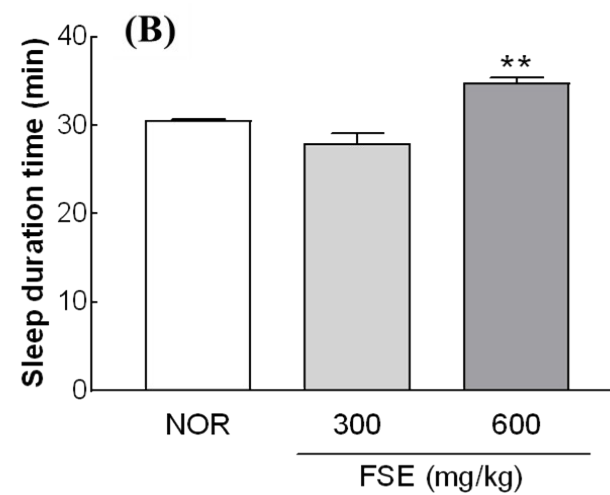
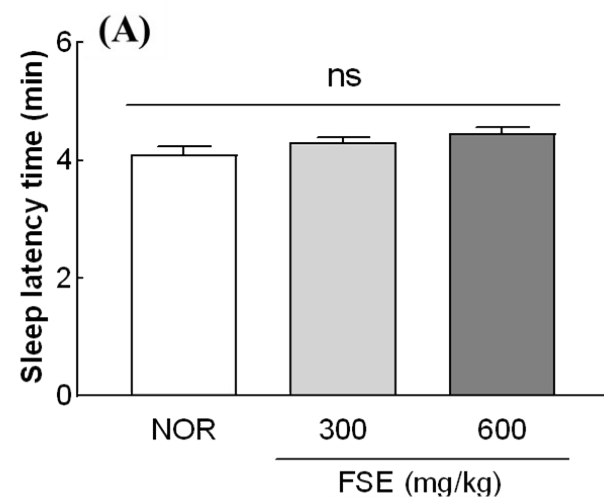
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30 **Fig. S2. Effect of FSE on sleep latency and total sleep time in mice administered pentobarbital (42 mg/kg, i.p.) under normal and OVX**
31 **conditions.** Sleep latency and total sleep time in normal mice (A, B). Sleep latency and total sleep time in OVX mice (C, D). Values are expressed
32 as mean $\pm$ SEM (n = 7 per group). Results are representative of three independent experiments. Different symbols indicate significant differences:
33 **p < 0.01 vs. NOR or CON, ***p < 0.001 vs. NOR or CON (ANOVA followed by Tukey's test). NOR, normal group (water-treated); CON,
34 OVX (ovariectomized) control group; FSE, fenugreek seed extract (300 and 600 mg/kg for NOR; 200, 250, and 300 mg/kg for OVX).

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Table S1 PCR primer sequences used in this study

Target gene		5'-sequence-3'	NCBI Reference Sequence
Mt1a	Forword	CTGGTCATCCTGTCGGTGTATC	NM_008639.1
	Reverse	TCGACATCGACACCAACGGGTA	
Mt1b	Forword	TCTCAGTGCTCAGGAACCGCA	NM_145712.1
	Reverse	AAGGACCCAACCGTCACGGATA	
Gabrg1	Forword	CTACCAGTGTTTGGAGGGCAA	NM_001417487.1
	Reverse	GTATGTGTATCCGCCCTTCCC	
Gabbr1	Forword	GCCAAGGAGGAACCAAAGGA	NM_001413996.1
	Reverse	CAGCAGCAGCCCTTTGTAAC	
Gabbr2	Forword	TCCGGAACGGGGAAAGAATG	NM_001081141.2
	Reverse	TTGTACTCGCCGACCTTCAC	
Htr1a	Forword	ATCTCCATCCCGCCTATGCT	NM_008308.5
	Reverse	AAGCGCCGAAAGTCGAGTAG	
GAPDH	Forword	GTGTCCGTCGTGGATCTGAC	NM_001411843.1
	Reverse	AGTCGCAGGAGACAACCTGG	

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68 Table S2 Antibodies used in this study

Target protein		Manufacturer	Catalog No.	Dilution
Primary antibody	GABAA receptor	Abcam	AB72445	1:1000
	GABAB receptor	Cell Signaling Technology	3835	
	5HT1A receptor	Abcam	AB85615	
	MTNR1A	Abcam	AB87639	
	MTNR1B	Abcam	AB203346	
	ADORA1	Invitrogen	PA3-041	
	ADORA2A	Invitrogen	PA1-042	
	ER α receptor	Invitrogen	PA5-34577	
	ER β receptor	Invitrogen	PA1-311	
	GPR 30	Invitrogen	PA5-28647	
Secondary antibody	GAPDH	Cell Signaling Technology	5174	1:2000
	Anti-rabbit IgG, HRP-linked antibody	Cell Signaling Technology	7074	

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78 Table S3 Effect of FSE on weights of organs in ICR

Group	Organ weight (g/100g)			
	Liver	Kidney	Spleen	Heart
NOR	4.77 ± 0.29 ^{ns}	1.34 ± 0.07 ^{ns}	0.38 ± 0.04 ^{ns}	0.64 ± 0.05 ^{ns}
PC	4.38 ± 0.25	1.41 ± 0.06	0.46 ± 0.05	0.60 ± 0.03
FH	4.19 ± 0.13	1.41 ± 0.06	0.36 ± 0.03	0.60 ± 0.04
OVX	4.19 ± 0.60	1.22 ± 0.08	0.37 ± 0.02	0.55 ± 0.04
OVX_PC	4.05 ± 1.88	1.29 ± 0.05	0.38 ± 0.02	0.55 ± 0.02
OVX_FL	4.04 ± 0.57	1.20 ± 0.02	0.38 ± 0.03	0.54 ± 0.03
OVX_FH	4.23 ± 1.08	1.23 ± 0.02	0.39 ± 0.02	0.56 ± 0.02

79 NOR, sham normal; OVX, OVX control; PC, positive control (benzodiazepine 200 µg/kg); FL,
80 fenugreek seed extract low dose, 200 mg/kg; FH, fenugreek seed extract high dose, 300 mg/kg.

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