Supplementary data

Neuroprotective and memory-enhancing effects of antioxidant peptide from walnut (*Juglans regia* L.) protein hydrolysates

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Table 1S. Effect of WP on the target time and crossing times of scopolamine-induced acquisition impairment in the Morris water maze test.

Groups	Dose (mg/kg)	Target-time (s)	Crossing-times (*N*)
Normal control	-	34.2 ± 6.1	2.4 ± 0.5
Negative control	-	25.8 ± 2.3$^{\#\#}$	1.7 ± 0.7$^{\#}$
Nmodipine	30	29.4 ± 8.2	3.8 ± 1.9**
Low-dose WP	30	30.3 ± 4.9*	2.8 ± 1.6
Medium-dose WP	100	29.1 ± 3.9*	2.8 ± 1.2*
High-dose WP	300	27.7 ± 5.9	4.7 ± 1.5**

$^{\#}$ $P < 0.05$ compared with normal control group, $^{\#\#}$ $P < 0.01$ compared with normal control group, * $P < 0.05$ compared with negative control group, ** $P < 0.01$ compared with negative control group.

Table 2S. Effect of WP on the escape latency of sodium nitrite-induced consolidation impairment in the Morris water maze test.

Groups	Dose (mg/kg)	Escape latency (s)	
		Before injection of sodium nitrite	After injection of sodium nitrite
Normal control	-	14.4 ± 10.5	12.0 ± 14.1
Negative control	-	21.3 ± 20.3	27.6 ± 34.8
Nmodipine	30	20.8 ± 13.3	18.9 ± 14.9
Low-dose WP	30	18.1 ± 14.4	8.1 ± 11.7
Medium-dose WP	100	12.0 ± 4.7	10.8 ± 6.4
High-dose WP	300	13.3 ± 11.2	4.7 ± 4.2

Table 3S. Effect of WP on the target time and crossing times of ethanol-induced reproduction impairment in the Morris water maze test.

Groups	Dose (mg/kg)	Target-time (s)	Crossing-times (*N*)
Normal control	-	35.1 ± 5.7	3.5 ± 2.3
Negative control	-	26.2 ± 4.5$^{\#\#}$	0.9 ± 1.0$^{\#\#}$

Nmodipine	30	35.0 ± 8.9	1.7 ± 1.7
Low-dose WP	30	30.8 ± 9.5	0.9 ± 1.4
Medium-dose WP	100	25.4 ± 5.8	0.8 ± 0.6
High-dose WP	300	32.2 ± 7.4*	3.8 ± 4.2*

$^{\#\#}$ $P < 0.01$ compared with normal control group, * $P < 0.05$ compared with negative control group.

Table 4S. Effect of WP on sodium nitrite-induced consolidation impairment in the step-down test.

Groups	Dose (mg/kg)	Step-down latency (s)	Error times (*N*)
Normal control	-	221.2 ± 70.6	1.0 ± 0.95
Negative control	-	94.7 ± 49.3$^{\#\#}$	3.6 ± 2.5$^{\#\#}$
Nmodipine	30	237.7 ± 79.7**	1.0 ± 1.2**
Low-dose WP	30	252.8 ± 72.7**	0.4 ± 0.6**
Medium-dose WP	100	273.2 ± 43.7**	0.7 ± 1.5**
High-dose WP	300	240.7 ± 66.8**	0.8 ± 1.0**

$^{\#\#}$ $P < 0.01$ compared with normal control group, ** $P < 0.01$ compared with negative control group.

Table5S. Effect of WP on ethanol-induced reproduction impairment in the step-down test.

Groups	Dose (mg/kg)	Step-down latency (s)	Error times (*N*)
Normal control	-	212.0 ± 84.2	0.8 ± 0.9
Negative control	-	46.3 ± 26.5$^{\#\#}$	5.7 ± 2.9$^{\#\#}$
Nmodipine	30	99.6 ± 98.7	2.5 ± 1.4*
Low-dose WP	30	199.3 ± 75.5**	2.0 ± 2.0**
Medium-dose WP	100	142.1 ± 113.5**	2.8 ± 2.2*
High-dose WP	300	146.1 ± 73.8**	3.2 ± 3.4

$^{\#\#}$ $P < 0.01$ compared with normal control group, * $P < 0.05$ compared with negative control group, ** $P < 0.01$ compared with negative control group.