

Supplementary Materials: Pueraria mirifica Exerts Estrogenic Effects in the Mammary Gland and Uterus and Promotes Mammary Carcinogenesis in Donryu Rats

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Table S1. Final body, relative organ weights and chemicals intakes of Donryu rats in Exp. 3.

Treament	No. Rats ^a	Final Body Weight (g)	Food Consumption (g/rat/day)	Chemical Intake		Total Chemical Intake (g/rat)	
				(mg/rat/day)	(mg/kg b.w./day)		
DMBA, ENNG	21	375.5 ± 89.4	17.5 ± 3.6	0 ± 0	0 ± 0	0 ± 0	
DMBA, ENNG → PM, 0.03%	21	344.1 ± 77.6	17.5 ± 5.8	5 ± 2	21 ± 13	1.4	
DMBA, ENNG → PM, 0.3%	21	306.8 ± 82.1 *	19.2 ± 8.4	58 ± 25	263 ± 176	14.9	
DMBA, ENNG → PM 1%	21	263.3 ± 49.0 ***	17.9 ± 2.5	179 ± 25	814 ± 171	45.1	
DMBA, ENNG → IA, 0.2%	21	323.8 ± 65.7	18.2 ± 4.9	36 ± 10	160 ± 95	9.4	
Vehicle	5	372.1 ± 42.9	19.6 ± 3.4	0 ± 0	0 ± 0	0 ± 0	
Vehicle → PM, 1%	6	237.3 ± 30.9 [#]	15.4 ± 3.6	159 ± 23	728 ± 104	40.1	
Treatment	No. Rats	Uterus (%)	Liver (%)	Kidneys (%)	Spleen (%)	Thymus (%)	Adrenals (%)
DMBA, ENNG	21	0.33 ± 0.03	4.20 ± 1.92	0.64 ± 0.17	0.51 ± 1.37	0.075 ± 0.091	0.026 ± 0.023
DMBA, ENNG → PM, 0.03%	21	0.41 ± 0.07	3.70 ± 0.79	0.64 ± 0.11	0.34 ± 0.28	0.186 ± 0.144 **	0.022 ± 0.006
DMBA, ENNG → PM, 0.3%	21	0.47 ± 0.06 *	3.84 ± 0.74 *	0.73 ± 0.14	0.22 ± 0.06	0.046 ± 0.021	0.024 ± 0.007
DMBA, ENNG → PM 1%	21	1.35 ± 0.52 *	3.73 ± 0.60 ***	0.79 ± 0.14 ***	0.37 ± 0.48	0.048 ± 0.018	0.031 ± 0.016
DMBA, ENNG → IA, 0.2%	21	0.36 ± 0.04	3.82 ± 1.51	0.66 ± 0.10	0.35 ± 0.31	0.054 ± 0.019	0.023 ± 0.005
Vehicle	5	0.27 ± 0.02	2.66 ± 0.26	0.58 ± 0.05	0.17 ± 0.03	0.063 ± 0.022	0.016 ± 0.003
Vehicle → PM, 1%	6	0.99 ± 0.71	3.20 ± 0.16	0.81 ± 0.07 [#]	0.19 ± 0.03	0.065 ± 0.014	0.022 ± 0.003 ^{##}

^a Effective number of rats, * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ vs. DMBA, ENNG group; # $p < 0.05$; ## $p < 0.01$ vs. vehicle control group.

Table S2. Results of the hematological and blood biochemical analyses.

Test Compound	DMBA, ENNG					Vehicle	
	PM			IA		Vehicle	PM
Dose of test compound (%)	0	0.03	0.3	1	0.2	0	1
No. of animals examined	17	15	13	19	15	5	6
WBC (/μL)	4550 ± 1777	6479 ± 8488	4525 ± 2235	4141 ± 2463	7547 ± 12,949	3600 ± 1706	3320 ± 996
RBC (×10 ⁴ /μL)	593.0 ± 95.6 #	589.4 ± 112.3	635.1 ± 125.7	612.7 ± 113.8	625.9 ± 185.1	770.4 ± 32.6	728.6 ± 31.9
Hb (g/dL)	11.7 ± 1.6 #	11.6 ± 2.6	11.94 ± 2.0	11.6 ± 2.0	11.8 ± 3.4	14.1 ± 0.6	13.9 ± 1.1
Ht (%)	38.0 ± 4.7 #	35.7 ± 7.3	37.9 ± 5.8	36.6 ± 6.0	37.6 ± 10.1	44.7 ± 0.9	42.1 ± 1.8 #
MCV (fL)	64.6 ± 4.2	60.6 ± 5.0	60.4 ± 4.6	60.1 ± 3.3	62.3 ± 8.2	58.2 ± 1.8	57.8 ± 0.8
MCH (pg)	19.9 ± 1.0	19.9 ± 5.7	18.9 ± 1.0	19.0 ± 0.8	19.3 ± 2.4	18.4 ± 0.8	19.1 ± 1.1
MCHC (g/dL)	30.8 ± 0.8	32.8 ± 8.0	31.4 ± 1.2	31.7 ± 0.9	31.1 ± 1.9	31.6 ± 0.9	32.9 ± 2.0
Platelets (×10 ¹⁰ /L)	76.7 ± 13.0 ##	57.4 ± 24.2 *	39.1 ± 31.9 **	54.2 ± 25.5 **	56.2 ± 28.5	38.5 ± 20.0	56.4 ± 15.8
Neutrophils (×10 ³ /L)	32.2 ± 17.0	42.1 ± 23.9	25.8 ± 15.1	34.3 ± 14.4	31.9 ± 15.7	30.0 ± 5.6	42.8 ± 8.1 #
Band neutrophils (×10 ³ /L)	1.4 ± 0.6	1.1 ± 0.4	1.2 ± 0.4	1.1 ± 0.2	1.4 ± 0.9	1.0 ± 0.0	1.0 ± 0.0
Eosinophils (×10 ³ /L)	1.2 ± 1.2	0.9 ± 1.2	0.7 ± 1.0	0.7 ± 1.6	0.7 ± 1.3	1.0 ± 0.7	0.6 ± 0.5
Basophils (×10 ³ /L)	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0	0.0 ± 0.0
Monocytes (×10 ³ /L)	2.9 ± 1.4	2.4 ± 1.5	3.5 ± 1.3	3.9 ± 2.3	2.8 ± 1.8	3.0 ± 1.6	3.8 ± 1.5
Lymphocytes (×10 ³ /L)	62.3 ± 16.7	53.5 ± 24.0	68.8 ± 15.8	60.1 ± 14.0	62.7 ± 16.2	65.0 ± 6.7	51.6 ± 9.8 #
T-protein (g/dL)	7.3 ± 1.0	6.7 ± 0.6	7.1 ± 0.5	6.8 ± 0.8	7.2 ± 0.4	7.5 ± 0.4	7.6 ± 0.5
Albumin (g/dL)	5.4 ± 0.5	4.8 ± 0.8	5.2 ± 0.6	4.9 ± 0.8	5.3 ± 0.5	5.1 ± 0.4	5.4 ± 0.4
A/G ratio	3.2 ± 0.9	2.6 ± 0.8	3.0 ± 0.9	2.6 ± 0.7	3.0 ± 0.7	2.1 ± 0.4	2.6 ± 0.5
T-BiL (mg/dL)	0.10 ± 0.00	0.10 ± 0.00	0.10 ± 0.00	0.11 ± 0.02	0.11 ± 0.03	0.14 ± 0.1	0.10 ± 0.00
AST (IU/L)	428.1 ± 216.9	425.1 ± 528.6	378.2 ± 295.2	263.7 ± 132.6 *	375.2 ± 296.6	467.0 ± 105.7	223.2 ± 19.4 ##
ALT (IU/L)	62.7 ± 39.8	62.8 ± 77.6	87.4 ± 84.0	55.6 ± 28.8	88.8 ± 89.1	96.2 ± 41.1	55.7 ± 12.0 #
ALP (IU/L)	62.0 ± 34.0	147.7 ± 253.6	73.6 ± 18.3	99.7 ± 58.6 *	77.5 ± 38.3	163.9 ± 98.1	125.3 ± 51.0
γ-GTP (IU/L)	2.1 ± 3.1	3.0 ± 2.9	2.5 ± 1.6	5.5 ± 11.7 **	3.9 ± 2.9 **	1.0 ± 0.0	2.2 ± 1.0 #
T-Cholesterol (mg/dL)	141.5 ± 35.4 #	123.5 ± 48.2	123.0 ± 30.0	105.3 ± 27.9 *	130.0 ± 36.9	191.6 ± 39.0	116.7 ± 31.8 ##
TG (mg/dL)	90.6 ± 51.5 #	76.7 ± 44.7	65.5 ± 60.2	68.1 ± 46.3	111.9 ± 169.2	47.4 ± 19.2	39.7 ± 28.4
BUN (mg/dL)	22.3 ± 4.1 #	25.1 ± 7.2	24.2 ± 4.0	27.1 ± 9.9	22.0 ± 7.0	17.2 ± 2.2	23.7 ± 4.4 #
Creatinine (mg/dL)	0.31 ± 0.07	0.33 ± 0.05	0.35 ± 0.06	0.29 ± 0.08	0.29 ± 0.04	0.37 ± 0.05	0.36 ± 0.03
Na (mEq/L)	143.9 ± 1.4	143.9 ± 1.3	143.0 ± 2.7	143.4 ± 1.8	143.4 ± 1.8	143.6 ± 1.9	144.7 ± 1.6
K (mEq/L)	5.0 ± 0.9	5.1 ± 0.5	5.6 ± 3.7	4.8 ± 0.9	4.9 ± 0.7	4.8 ± 0.3	4.6 ± 0.4
Cl (mEq/L)	100.1 ± 1.7	100.5 ± 1.7	99.8 ± 1.6	100.2 ± 2.0	100.5 ± 2.1	98.4 ± 1.9	99.2 ± 1.8
Ca (mEq/L)	9.9 ± 0.4	9.7 ± 0.4	9.7 ± 0.4	9.4 ± 0.4 ***	9.6 ± 0.3	10.2 ± 0.5	9.7 ± 0.4
IP (mEq/L)	6.8 ± 1.6	7.2 ± 1.4	6.3 ± 2.5	5.9 ± 1.2	5.5 ± 1.7	7.9 ± 3.2	6.4 ± 1.1

Values are means ± SD; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ vs. DMBA, ENNG initiation control group; # $p < 0.05$; ## $p < 0.01$ vs. vehicle control group; TG, triglycerides; T-Bil, T-bilirubin; IP, inorganic phosphorus.