

Table. 5-1. Effect of FMAC on small intestinal digestive enzymes in rats .

Digestive enzymes	FMAC (g/kg/day)			
	Control	1	2	3
Maltose (U/g protein)	1084.0 ± 54.7	950.9 ± 63.0	1226.0 ± 64.9	1121.3 ± 74.0
Sucrase (U/g protein)	102.6 ± 14.5	120.9 ± 16.3	129.03 ± 21.9	108.0 ± 24.1
Lactolase(U/gprotein)	2.6 ± 0.7	4.3 ± 0.8	4.7 ± 1.6	2.1 ± 0.5
Lipase (U/g protein)	611.2 ± 189	495.4 ± 185.2	293.9 ± 37.8	346.7 ± 92.5
LAP (U/g protein)	916.3 ± 48.2	849.1 ± 66.2	1131.8 ± 124.3	932.9 ± 58.5

All values are means ± S.E. (n=7)

LAP: Leucine aminopeptidase

Table. 5-2. Effect of FMAC on malondialdehyde, glutathione and protein contents of stomach and small intestinal mucosa in rats.

Drug	Dose (g/kg/day)	MDA (nmol / mg protein)	Glutathione (μ mol / g tissue)	Protein (mg / g tissue)
Stomach				
Control		0.91 \pm 0.06	1.32 \pm 0.20	89.7 \pm 2.4
FMAC	1	1.04 \pm 0.07	1.69 \pm 0.30	88.7 \pm 1.4
	2	1.04 \pm 0.09	1.80 \pm 0.23	91.7 \pm 2.8
	3	1.11 \pm 0.09	1.93 \pm 0.10*	101.2 \pm 4.4*
Intestine				
Control		1.28 \pm 0.07	0.12 \pm 0.04	65.3 \pm 3.6
FMAC	1	1.02 \pm 0.07	0.38 \pm 0.14	76.7 \pm 3.3
	2	1.18 \pm 0.11	0.35 \pm 0.07*	62.5 \pm 2.3
	3	1.32 \pm 0.16	0.45 \pm 0.08**	73.6 \pm 5.1

All values are means \pm S.E. (n= 10). *P<0.05, **P<0.01 compared with control group.

Table. 5-3. Accumulated urine after 6 hours oral administration of FMAC in rats.

Time (hr)	Urine Volume (ml / 100g body weight)			
	Control	FMAC		
		0.5g	1.0g	2.0g
0.5	1.36 ± 0.28	0.22 ± 0.14*	0.18 ± 0.18**	0.09 ± 0.09***
1	2.18 ± 0.27	0.64 ± 0.16***	0.34 ± 0.18***	0.30 ± 0.09***
2	2.61 ± 0.50	1.03 ± 0.14**	0.91 ± 0.29**	0.65 ± 0.16**
3	3.17 ± 0.36	1.79 ± 0.18**	1.35 ± 0.21***	1.04 ± 0.13***
4	3.34 ± 0.34	2.13 ± 0.10*	1.74 ± 0.28**	1.40 ± 0.27***
5	3.42 ± 0.33	2.53 ± 0.18	2.19 ± 0.42*	1.57 ± 0.28**
6	3.63 ± 0.19	3.18 ± 0.33	2.42 ± 0.46*	2.35 ± 0.31*

All values are means ± S.E. (n=7). *P<0.05, **P<0.01, ***P<0.001 compared with control group.

Table. 5-4. Sodium, potassium and chloride ions contents in accumulated urine after 6 hours oral administration of FMAC in rats.

Drug	Dose (g / kg)	Na ⁺ (mmole/100g/6hr)	K ⁺ (mmole/100g/6hr)	Cl ⁻ (mmole/100g/6hr)
Control		0.15 ± 0.03	0.24 ± 0.04	0.14 ± 0.03
FMAC	0.5	0.21 ± 0.03	0.28 ± 0.03	0.21 ± 0.03
FMAC	1.0	0.20 ± 0.03	0.27 ± 0.03	0.18 ± 0.03
FMAC	2.0	0.39 ± 0.05***	0.38 ± 0.02**	0.31 ± 0.05**

All values are means ± S.E. (n=7). **P<0.01, ***P<0.001 compared with control group.

Table. 5-5. Effect of FMAC on mean blood pressure and heart rate in spontaneous hypertensive rats.

Time (hr)	Control	FMAC 0.5 g / kg	FMAC 2.0 g / kg	Guanethidine 30 mg/kg
Mean Blood Pressure (mmHg)				
0	157.0 ± 1.8	173.3 ± 5.0	168.6 ± 5.5	160.2 ± 2.4
1	155.4 ± 5.2	171.5 ± 6.7	162.2 ± 11.1	158.0 ± 5.6
2	153.4 ± 3.4	172.8 ± 5.7	162.2 ± 3.8	140.8 ± 5.9*
3	155.0 ± 3.3	167.3 ± 6.9	172.6 ± 2.2	141.8 ± 5.4*
4	148.0 ± 6.4	168.8 ± 6.1	168.0 ± 4.0	136.5 ± 6.6*
5	154.6 ± 2.2	166.2 ± 6.2	173.8 ± 7.2	130.5 ± 6.1***
Heart Rate (times / min)				
0	397.4 ± 10.6	440.3 ± 10.8	423.2 ± 16.2	453.5 ± 7.6
1	359.8 ± 20.9	409.3 ± 12.3	411.2 ± 11.4	431.5 ± 11.3
2	365.4 ± 13.0	408.2 ± 13.8*	386.4 ± 8.1	434.5 ± 13.3
3	352.4 ± 9.9**	387.0 ± 12.5*	389.6 ± 22.3	423.8 ± 9.0*
4	365.4 ± 17.8	396.8 ± 13.0*	375.0 ± 22.7	400.0 ± 15.7*
5	360.6 ± 11.5*	388.2 ± 10.9**	401.6 ± 12.6	399.7 ± 7.8***

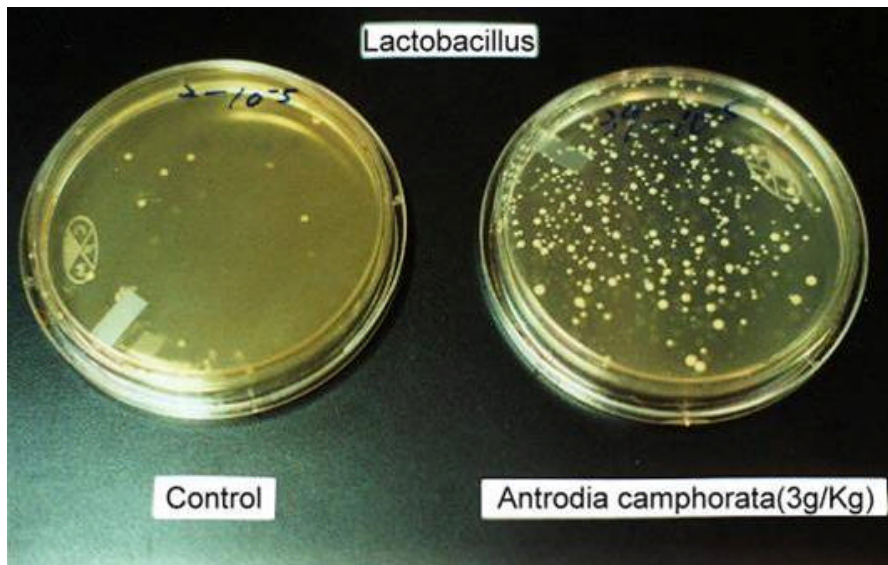
All values are means ± S.E (n=6). *P<0.05, **P<0.01, ***P<0.001 compared with 0 hr by paired t-test.

Table. 5-6. Chronic effect of FMAC on mean blood pressure and heart rat in spontaneous hyertensive rats.

Day	Control	FMAC 0.5 g / kg	FMAC 2.0 g / kg	Guanethidine 30 mg/kg
Mean Blood Pressure (mmHg)				
Day 0	158.6 ± 1.5	167.6 ± 4.0	164.2 ± 2.6	159.0 ± 2.1
Day 10	161.4 ± 2.0	161.3 ± 5.2	157.7 ± 2.9	140.7 ± 6.7
Day 20	161.5 ± 2.5	161.9 ± 2.9	176.9 ± 2.9	149.3 ± 3.4
Heart Rate (times / min)				
Day 0	403.7 ± 6.6	429.9 ± 10.3	403.4 ± 10.9	429.6 ± 16.1
Day 10	390.5 ± 5.0	423.8 ± 14.2	420.6 ± 9.3	364.4 ± 13.4
Day 20	428.8 ± 8.6	430.8 ± 13.1	474.3 ± 8.1	409.4 ± 20.3

All values are means ± S.E (n=6).

(A)



(B)

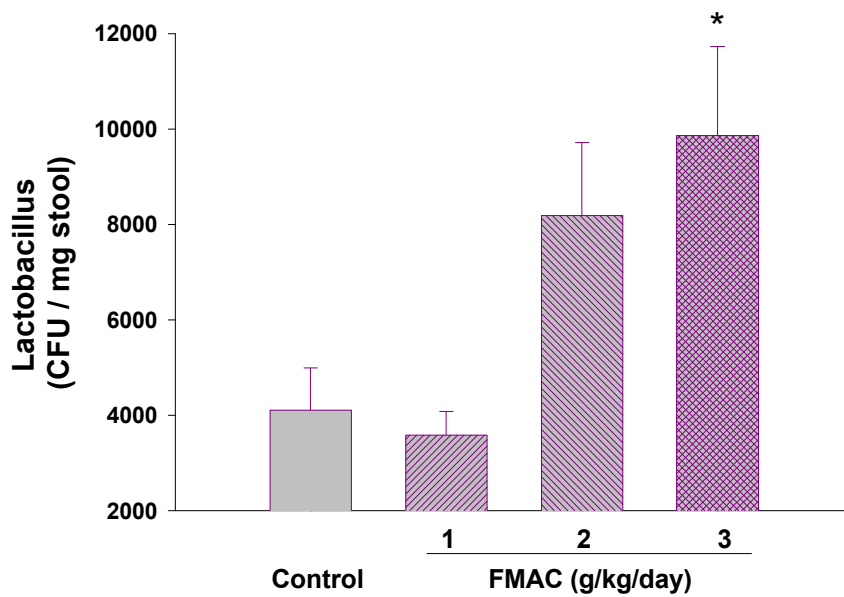


Fig. 5-1.

Chronic effect of FMAC on the caecal *Lactobacillus perfringens* contents in rats. Values are are mean \pm S.E. (n = 10) *P < 0.05 compared with the control group.CFU: Colony forming units

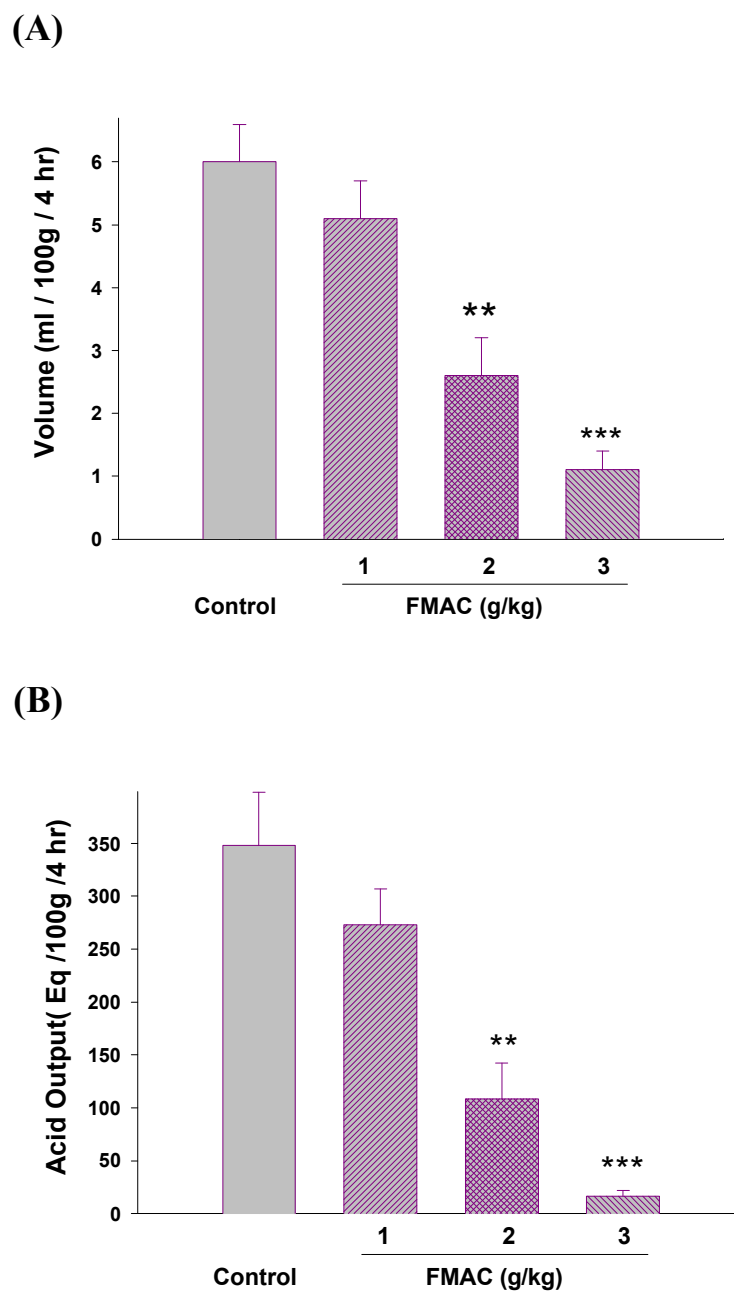
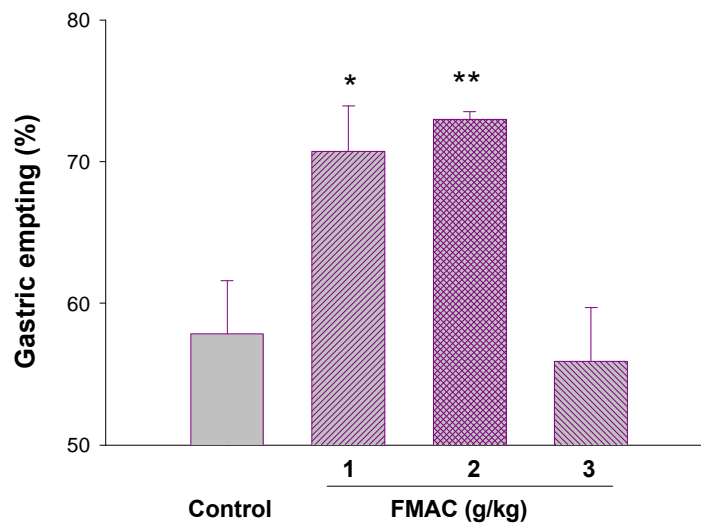


Fig.5-2.

Effect of FMAC on the gastric acid secretion volume (A) and acid output (B) in pylorus-ligated rats. All values are means \pm S.E.(n=7). **P<0.01, ***P<0.001 compared with control group.

(A)



(B)

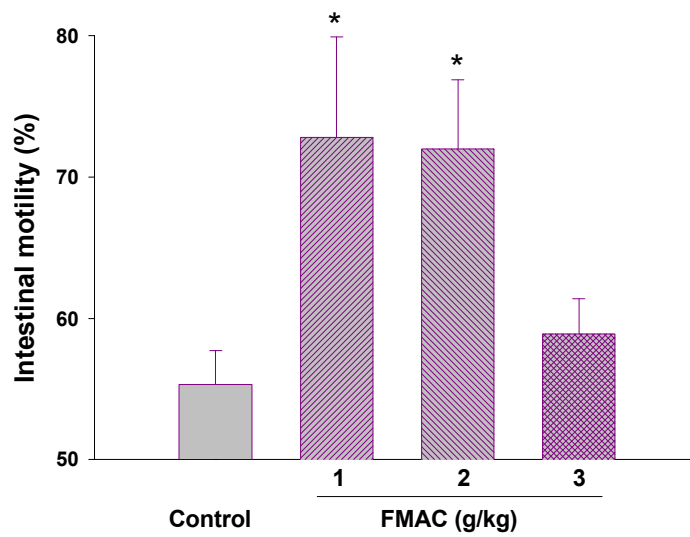


Fig.5-3.

Effect of FMAC on intestestinal motility (A) and gastric emptying (B) in mice. All values are means \pm S.E.(n=7). *P<0.05,**P<0.01, compared with control group.