

Table 1. Body weight and food and chemical intake of *Polk*^{+/+} and *Polk*^{-/-} mice treated with benzo[*a*]pyrene and α -naphthoflavone for 40 weeks

Genotype	BaP (%)	ANF (%)	Body weight (g)				Food intake (g/animal/day)	BaP intake (mg/kg BW/day)	ANF intake (mg/kg BW/day)	
			0 w	10 w	20 w	30 w				40 w
<i>Polk</i> ^{+/+}	0	0	24.8 ± 1.28	32.2 ± 2.31	38.0 ± 3.51	42.8 ± 3.83	44.7 ± 4.00	4.11	0.0	0.0
	0.003	0	24.2 ± 1.21	30.7 ± 1.59	35.6 ± 3.06	39.5 ± 3.67	42.1 ± 4.09	4.26	3.8	0.0
	0.01	0	24.3 ± 1.03	30.5 ± 1.79	35.0 ± 2.81	39.5 ± 4.15	41.6 ± 4.89	3.60	10.6	0.0
	0	0.1	24.4 ± 2.20	30.5 ± 3.76	35.7 ± 5.49	40.4 ± 6.57	43.3 ± 6.16	3.74	0.0	107.4
	0.003	0.1	24.6 ± 1.86	29.7 ± 1.86	33.4 ± 1.57	35.1 ± 1.70 *	37.1 ± 2.28	3.36	3.2	105.1
	0.01	0.1	25.0 ± 2.35	29.6 ± 3.15	34.0 ± 4.59	36.8 ± 7.46	40.0 ± 9.23	3.32	10.0	99.7
<i>Polk</i> ^{-/-}	0	0	24.8 ± 2.64	31.0 ± 3.88	35.5 ± 6.18	37.3 ± 3.88	37.5 ± 4.33	3.26	0.0	0.0
	0.003	0	24.1 ± 1.34	31.5 ± 2.58	35.9 ± 3.18	40.3 ± 4.92	43.6 ± 5.99	3.53	3.1	0.0
	0.01	0	24.3 ± 1.56	30.7 ± 3.75	36.4 ± 5.41	39.6 ± 7.20	42.5 ± 7.48	3.74	10.6	0.0
	0	0.1	25.0 ± 1.16	29.8 ± 1.72	33.0 ± 1.88	36.8 ± 2.89	38.7 ± 4.04	3.65	0.0	110.6
	0.003	0.1	24.6 ± 2.05	29.3 ± 1.61	32.2 ± 2.55	34.8 ± 3.02	36.5 ± 2.94	4.22	4.0	132.1
	0.01	0.1	24.7 ± 1.79	27.0 ± 0.72 *	29.1 ± 1.17 *	30.7 ± 1.91 *	33.1 ± 2.28	3.17	10.8	107.7

* *P* < 0.05 compared with respective control group.

Table 2. Histopathological findings in the forestomach of *Polk*^{+/+} and *Polk*^{-/-} mice treated with benzo[*a*]pyrene and α -naphthoflavone for 40 weeks

Genotype	B[a]P (%)	ANF (%)	Total no. of mice	No. of mice with forestomach abnormality				No. of mice with preneoplastic/tumor lesions in the
				Hyperplasia	Dysplasia	Papilloma squamous	Squamous cell	
<i>Polk</i> ^{+/+}	0	0	6	0	0	0	0	0
	0.003	0	6	2	0	0	0	0
	0.01	0	6	5*	3	3	0	5*
	0	0.1	6	0	0	0	0	0
	0.003	0.1	6 [†]	1	0	0	1 [†]	1 [†]
0.01	0.1	5	4*	2	4*	4*	4*	
<i>Polk</i> ^{-/-}	0	0	6	0	0	0	0	0
	0.003	0	6	1	1	0	0	1
	0.01	0	6	5*	1	2	1	3
	0	0.1	6	2	0	0	0	0
	0.003	0.1	6	2	0	1	0	1
0.01	0.1	6 [†]	3	1	3 [†]	4 [†]	4 [†]	

* $P < 0.05$ compared with respective control group; [†] including animals died during treatment.

Table 3. Number of lesions per animals in the forestomach of *Polk*^{+/+} and *Polk*^{-/-} mice treated with benzo[*a*]pyrene and α -naphthoflavone for 40 weeks

Genotype	B[a]P (%)	ANF (%)	Total no. of mice	No. of lesions per mice in the forestomach					Squamous cell carcinoma	No. of preneoplastic/tumor lesions per mice in the forestomach
				Hyperplasia	Dysplasia	Papilloma squamous				
<i>Polk</i> ^{+/+}	0	0	6	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
	0.003	0	6	0.33 ± 0.52	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
	0.01	0	6	1.00 ± 0.63	1.00 ± 1.55	0.67 ± 0.82	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	1.67 ± 1.86**
	0	0.1	6	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
	0.003	0.1	6 [†]	0.33 ± 0.82	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.17 ± 0.41**	0.17 ± 0.41**	0.17 ± 0.41**
	0.01	0.1	5	3.20 ± 3.11	0.80 ± 1.30	2.00 ± 1.87	0.80 ± 0.45	0.80 ± 0.45	0.80 ± 0.45	3.60 ± 3.35
<i>Polk</i> ^{-/-}	0	0	6	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
	0.003	0	6	0.17 ± 0.41	0.17 ± 0.41	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.17 ± 0.41
	0.01	0	6	1.67 ± 1.21	0.17 ± 0.41	0.33 ± 0.52	0.17 ± 0.41	0.17 ± 0.41	0.17 ± 0.41	0.67 ± 0.82
	0	0.1	6	0.33 ± 0.52	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
	0.003	0.1	6	0.33 ± 0.52	0.00 ± 0.00	0.17 ± 0.41	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.17 ± 0.41
	0.01	0.1	6 [†]	1.83 ± 2.64	0.17 ± 0.41	0.50 ± 0.55	1.00 ± 0.89	1.00 ± 0.89	1.00 ± 0.89	1.67 ± 1.51

* $P < 0.05$, ** $P < 0.01$ compared with respective control group; [†] including animals died during treatment.

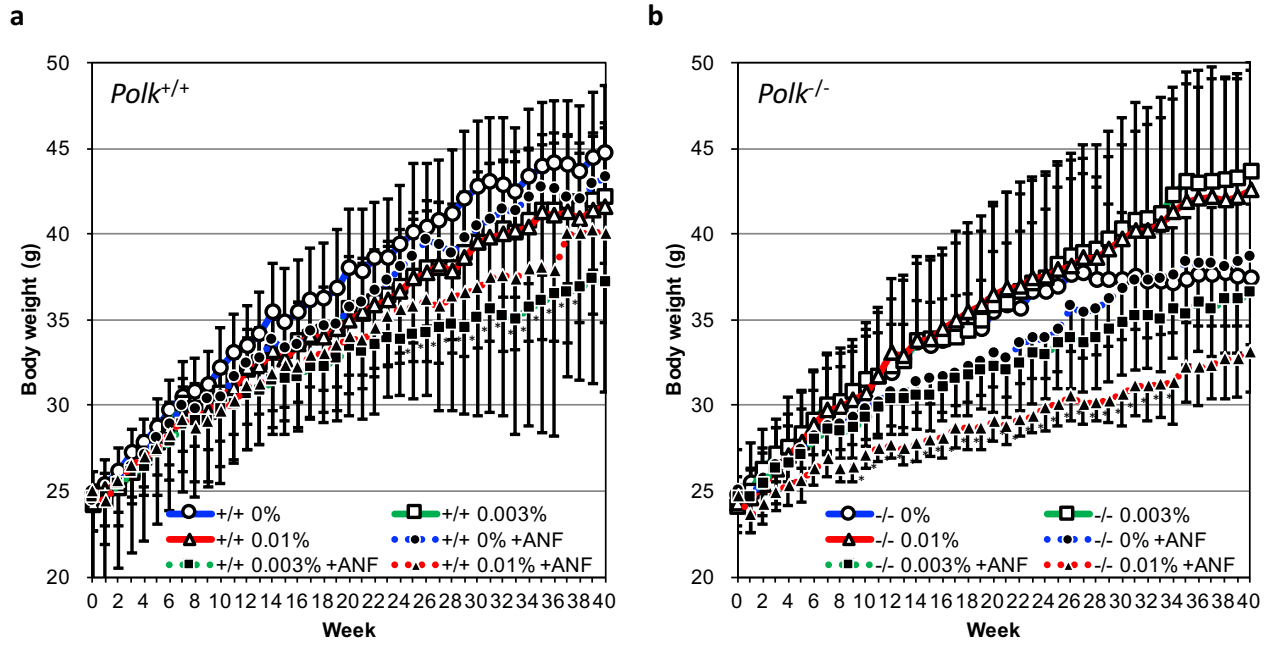


Fig. 1. Body weight gain of *Polk^{+/+}* and *Polk^{-/-}* mice treated with benzo[*a*]pyrene and α -naphthoflavone for 40 weeks. * $P < 0.05$ compared with respective control group.

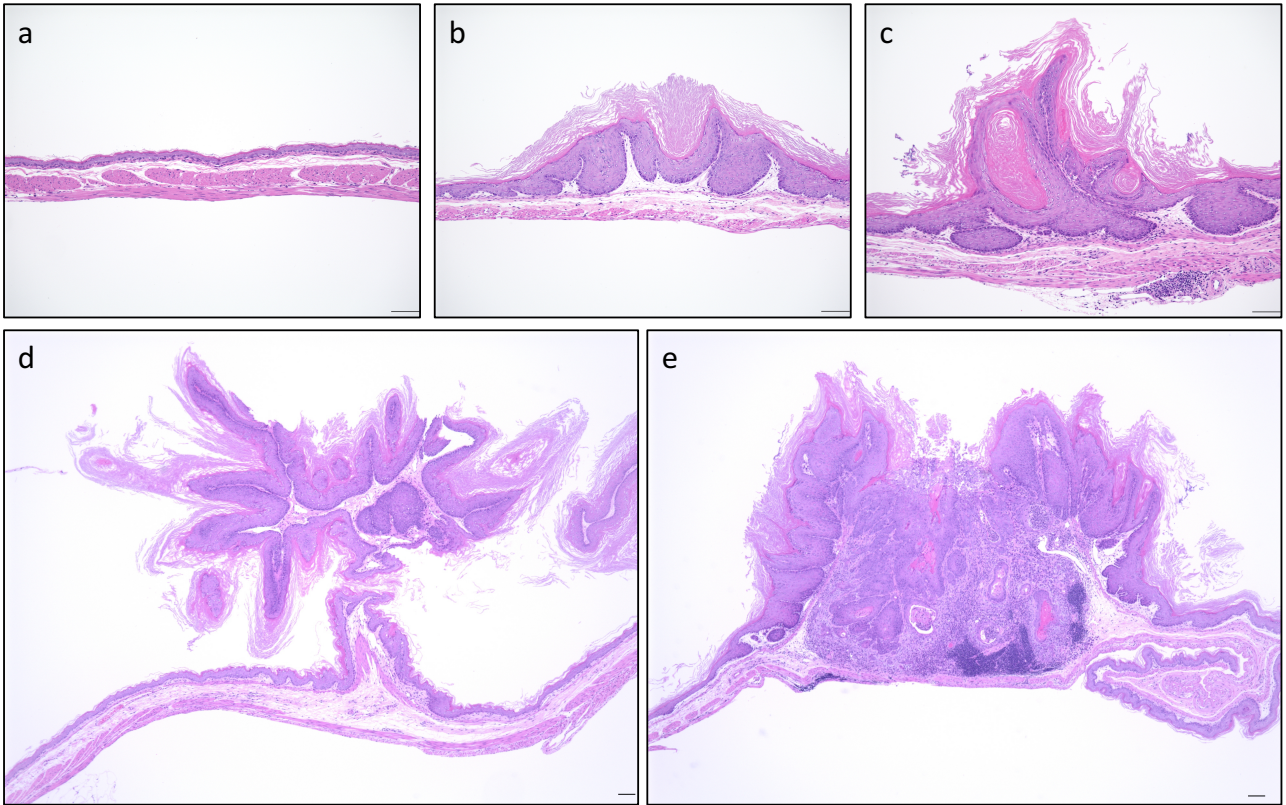


Fig. 2. Representative images of histopathological findings in the forestomach of the mice treated with benzo[*a*]pyrene and α -naphthoflavone for 40 weeks. (a) normal forestomach, (b) hyperplasia squamous, (c) dysplasia, (d) papilloma squamous, (e) squamous cell carcinoma. Bar=100 μ m.

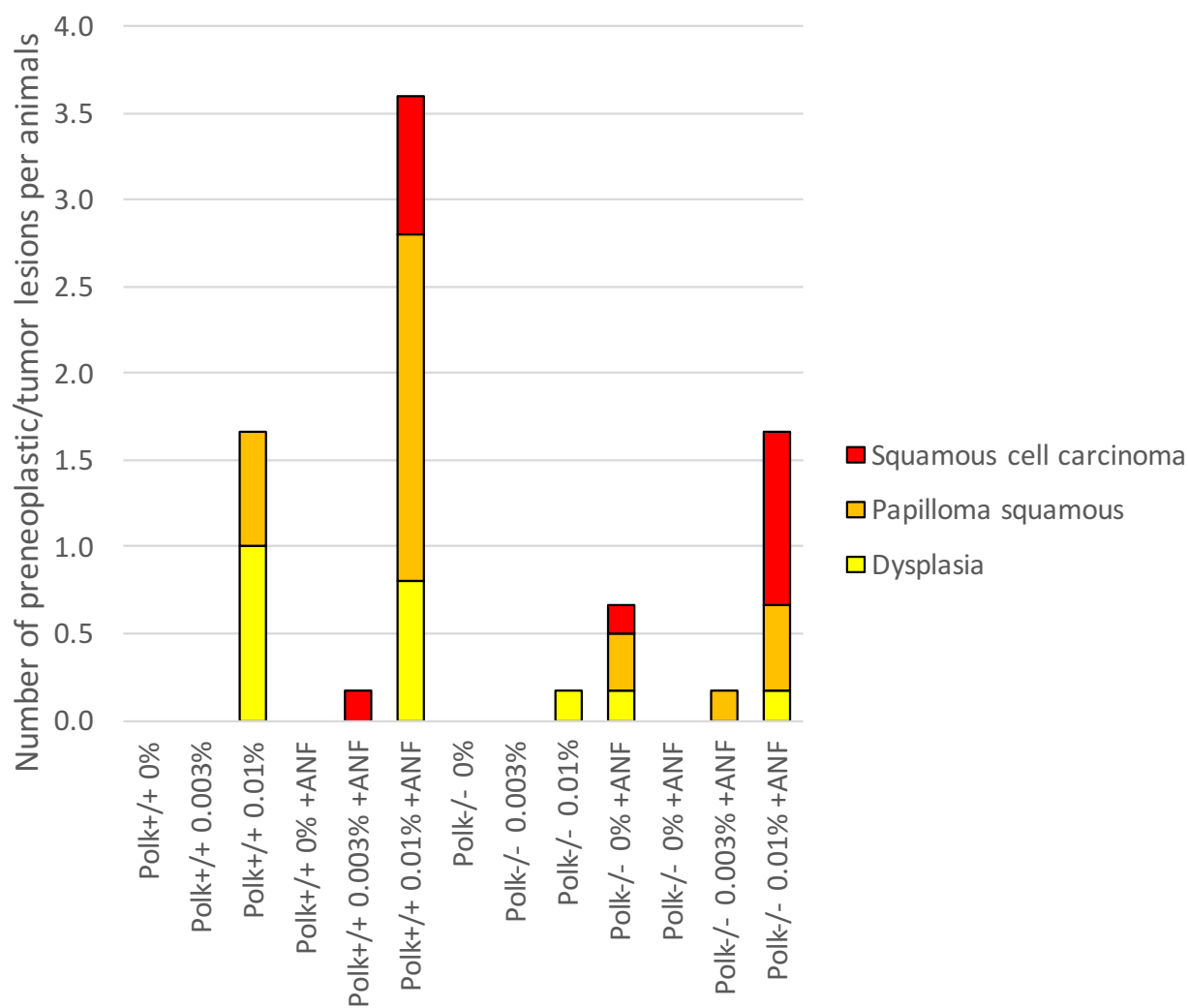


Fig. 3. Multiplicity of tumor lesions in the forestomach of *Polk*^{+/+} and *Polk*^{-/-} mice treated with benzo[*a*]pyrene and α -naphthoflavone for 40 weeks.