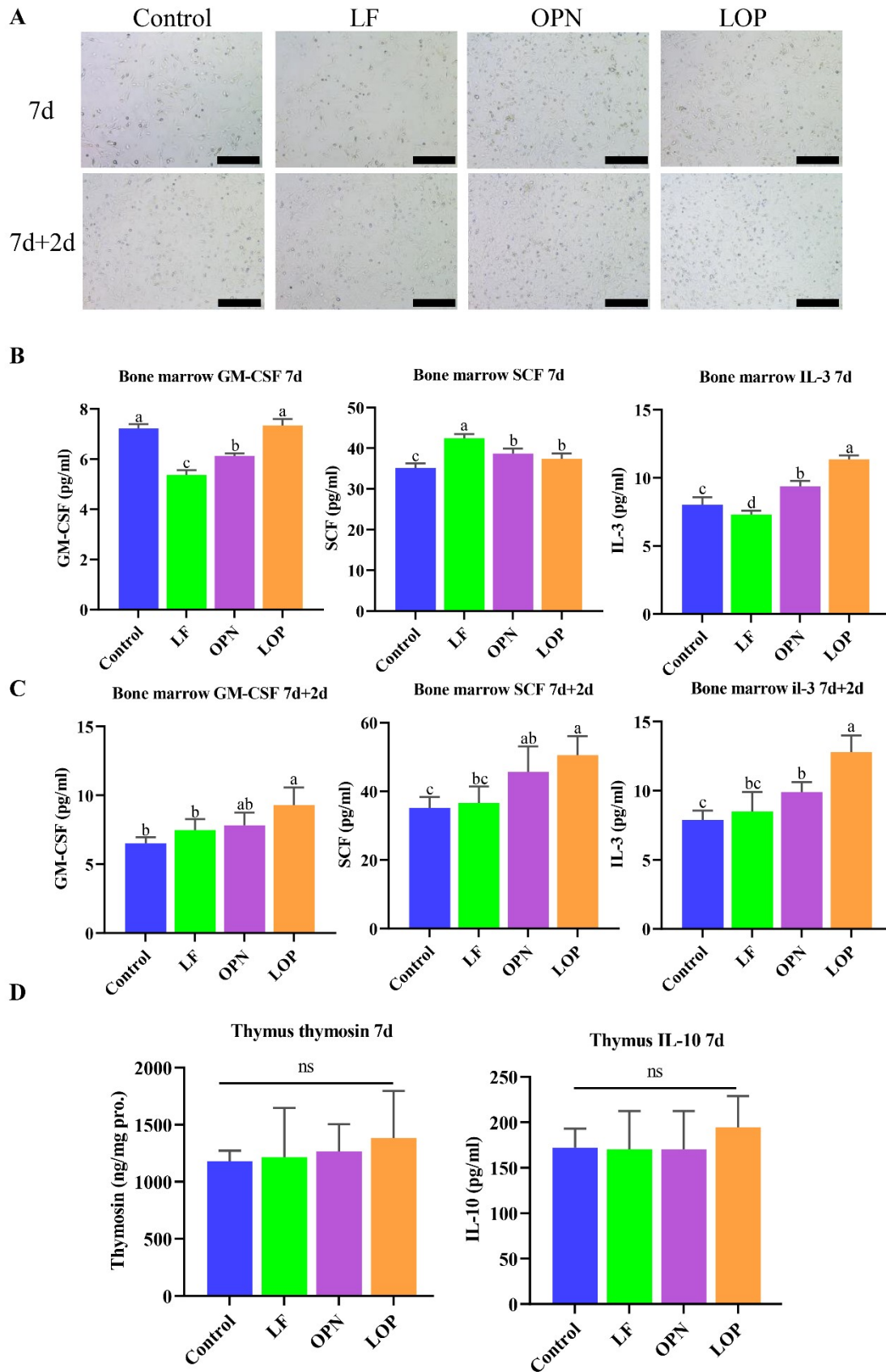
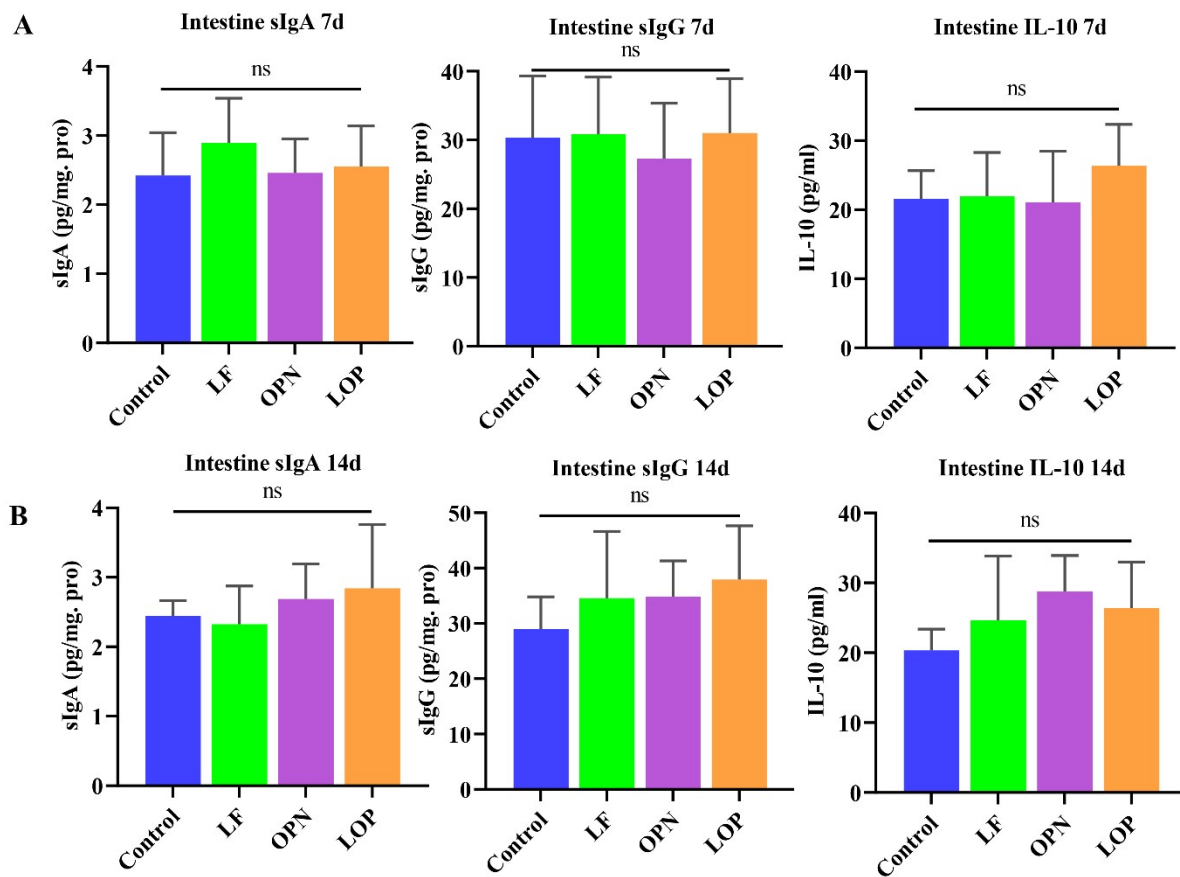


Supplementary figure 1. (a) the change of body weight of mice during lps-induced intestine inflammation model. (b) effect of lf and opn on immune system development of mice 14 days after birth. data were shown as mean \pm sd, n = 5. a, b, c: represent significant difference ($p < 0.05$).



Supplementary figure 2. effect of lf and opn on central immune organs of mice after 7-day-treatment. (a) images of primary marrow cells isolated from mice 14 days after birth (scale bar = 40

μm). cytokines related to immunity were measured in the marrow cells after isolation (b) and after 48-hour culturing (c). (d) the organ/body weight ratio and immunity-related cytokines of thymus gland were also measured. data were shown as mean ± sd, n = 5. the significance of the differences was estimated by one-way anova. a, b, c: represent significant differences and ns represents no significant difference (p < 0.05).



Supplementary figure 3. effect of lf and opn on intestinal immunity of mice at early stage. indicators related to immunity in small intestine of mice were measured 14 days after birth (a) and 21 days after birth (b). data were shown as mean ± sd, n = 6. the significance of the differences was estimated by one-way anova. ns represents no significant difference (p < 0.05).