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Abrupt suspension of probiotics administration may increase host pathogen susceptibility by inducing gut dysbiosis

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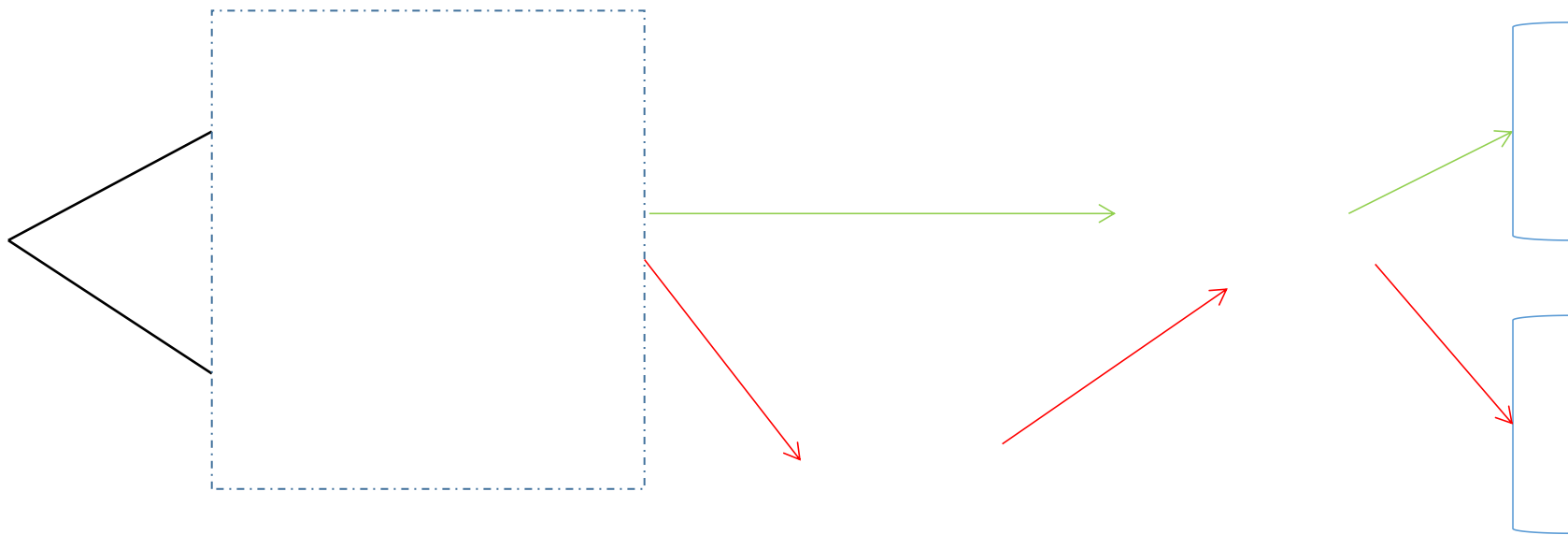
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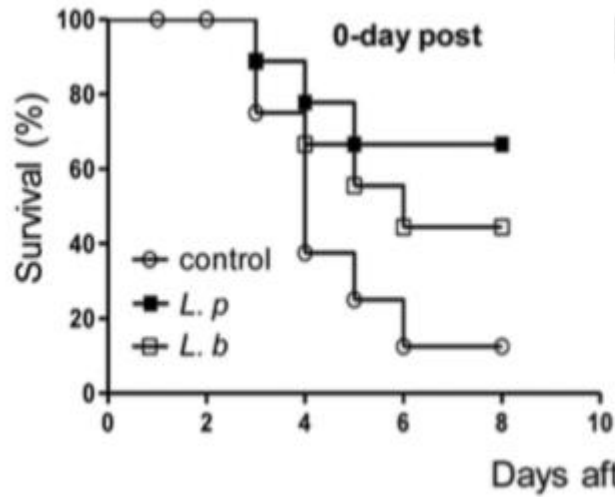




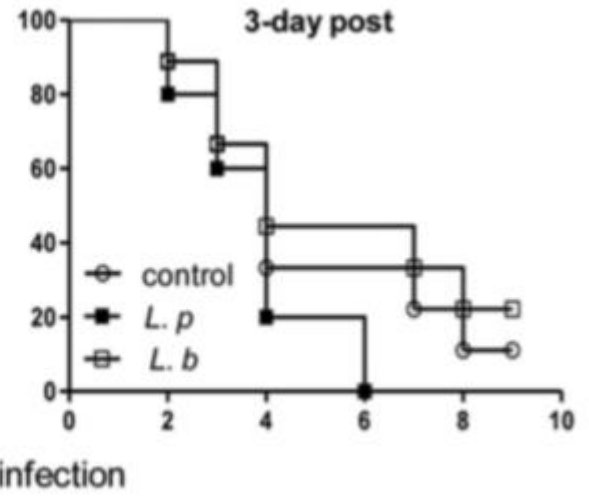


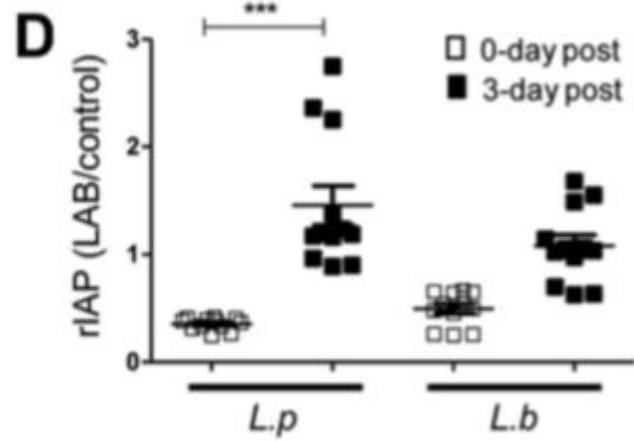
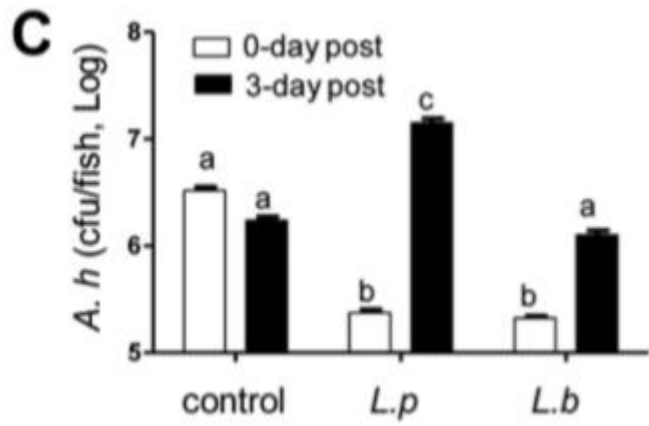


A

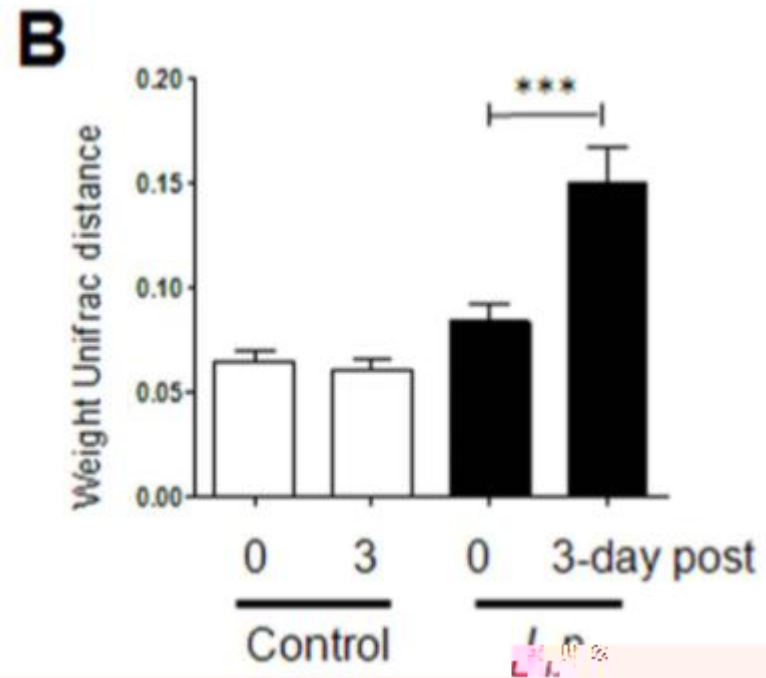
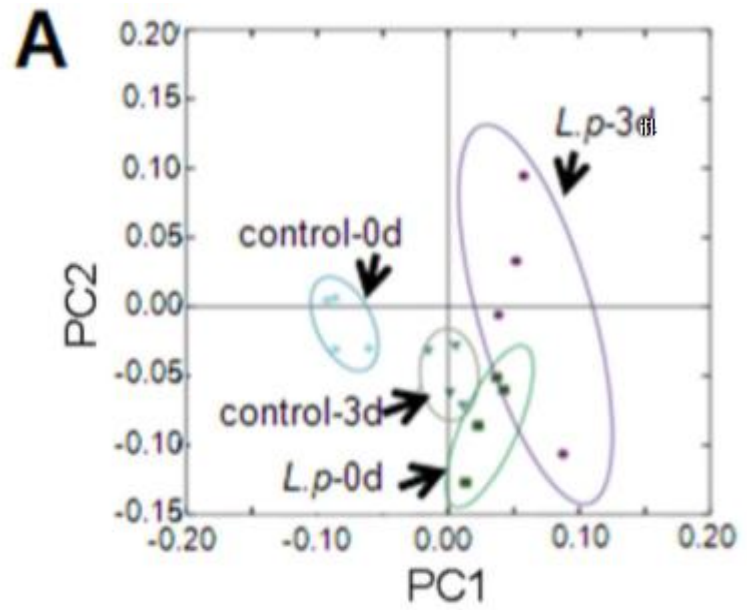


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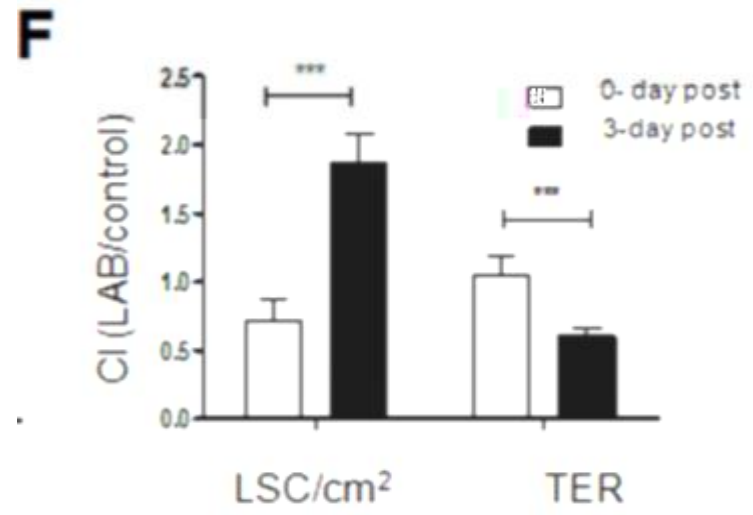
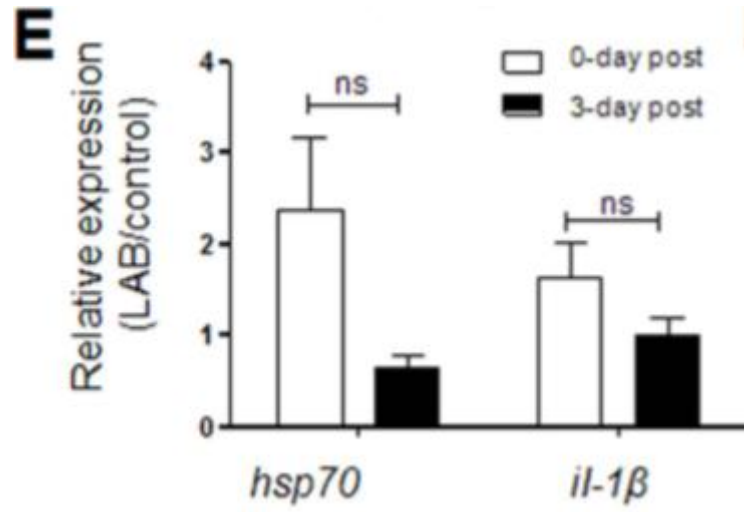












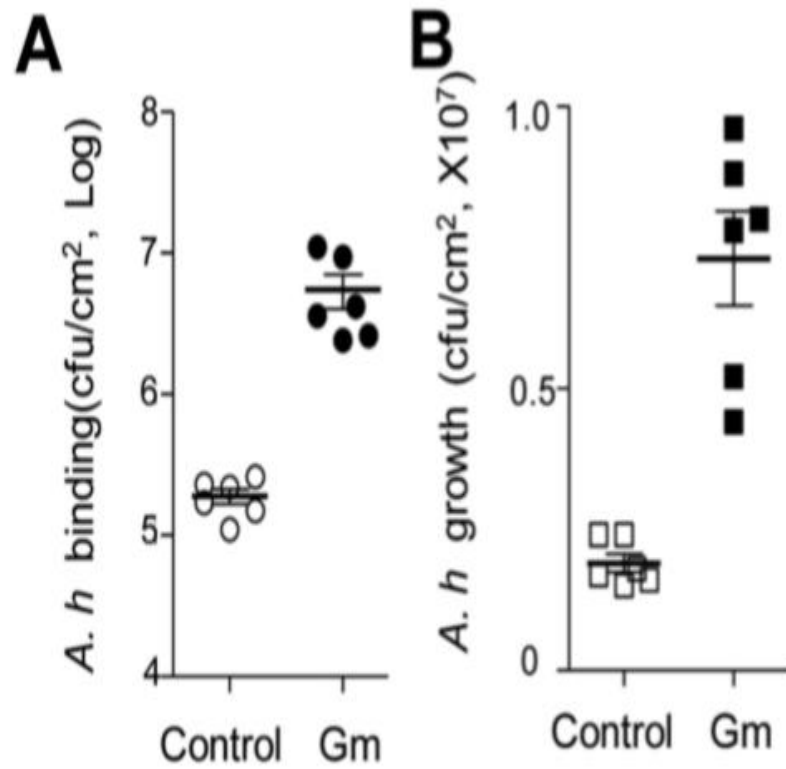


Figure 4. Influence of antibiotics treatment on *A. hydrophila* NJ-1 binding (A) and proliferation (B) on intestinal surfaces. After antibiotic treatment, tilapia intestines were opened to expose the inner surface, and *A. hydrophila* NJ-1 cells were applied to the inner surface for binding and growth measurement as described in the materials and methods section.

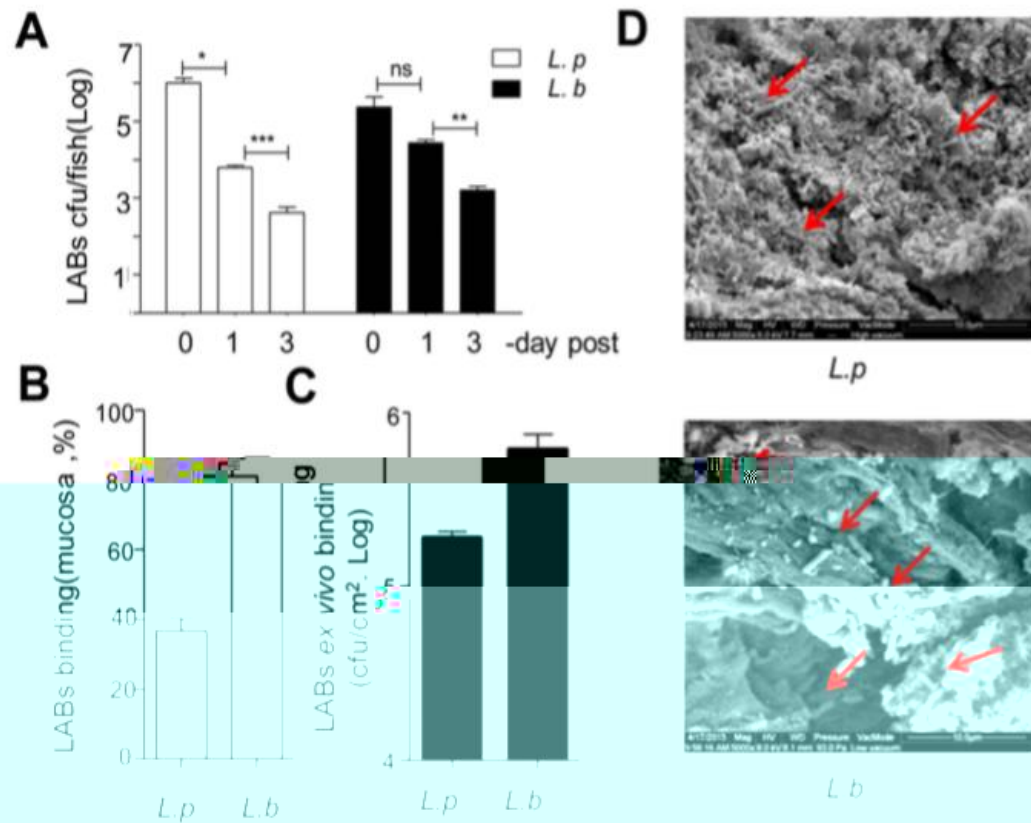


Figure 5. Dynamic kinetics and spatial distribution of probiotics in tilapia intestines. *L. p* JCM1149 and *L. b* JCM1170 populations in intestinal inner surface area (A) and intestinal mucosa (B) of tilapia. Probiotic binding on tilapia ex vivo intestinal tissue was visualized using cell counts (C) and SEM (D). One, two and three asterisks represent significant differences ($P < 0.05$, $P < 0.01$, and $P < 0.001$, respectively).

