

EARLY INTESTINAL INFECTION KINETICS AND IMMUNE RESPONSES TO *TOXOPLASMA GONDII* IN PIGS

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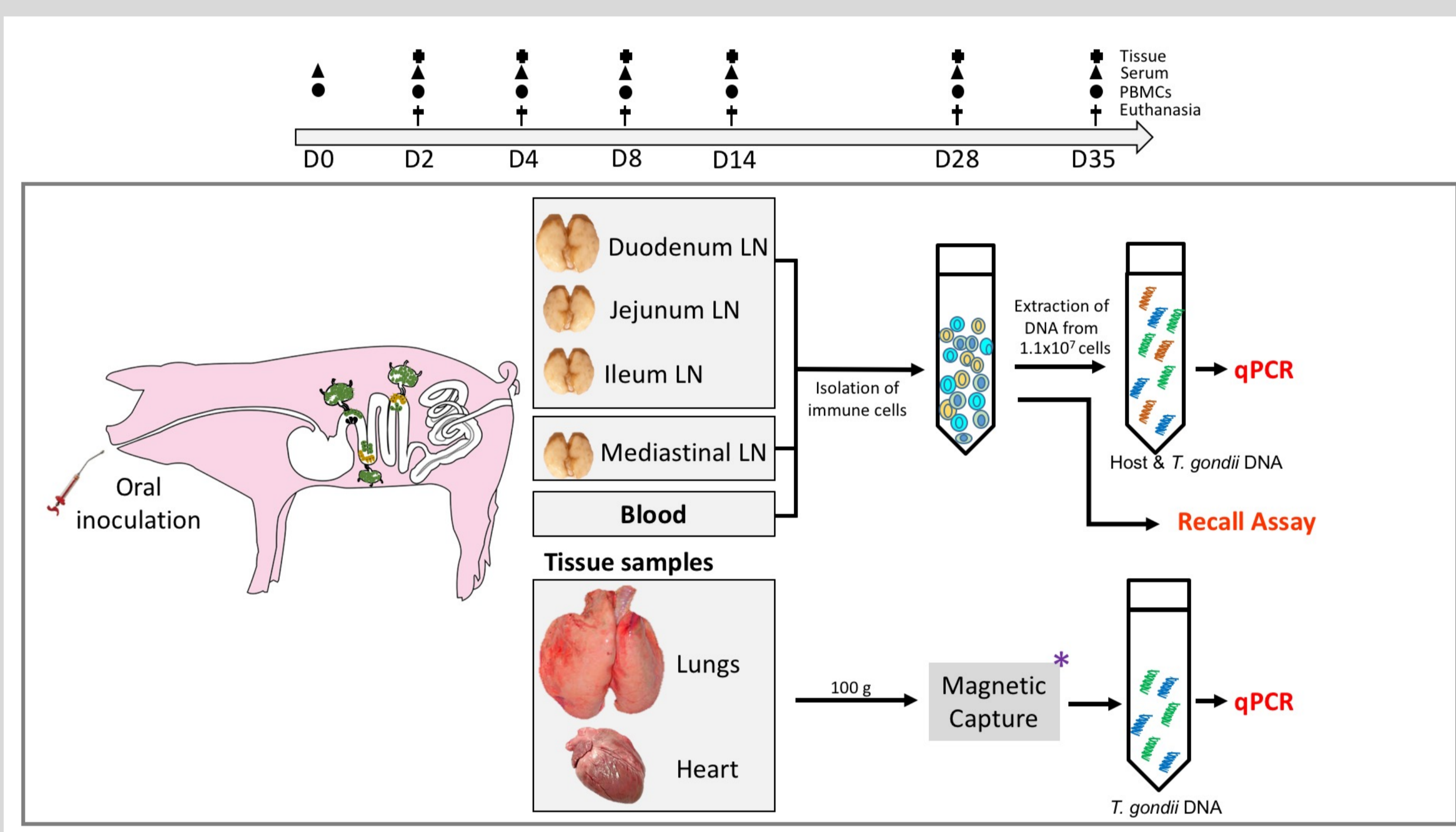
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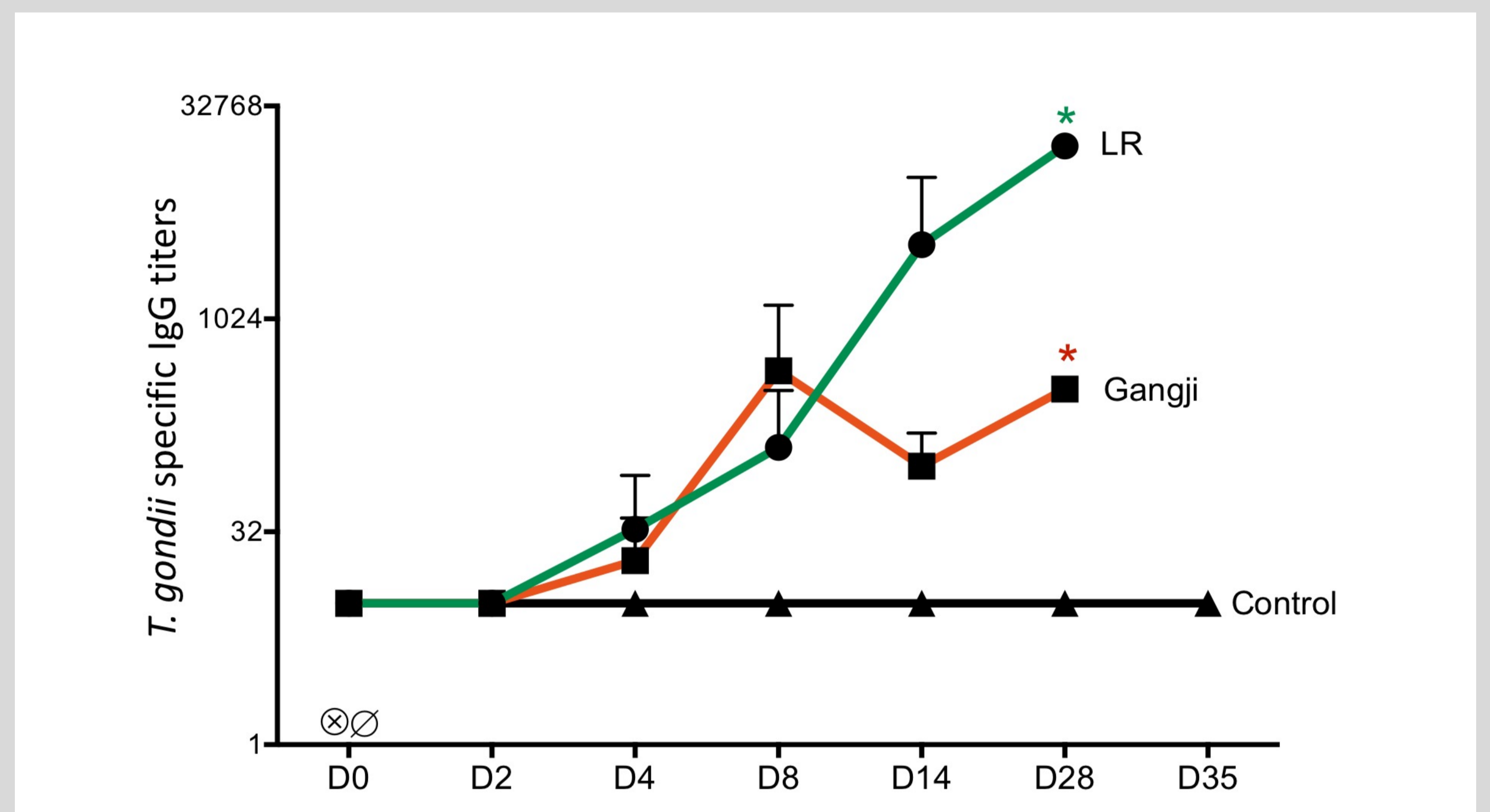
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Toxoplasma gondii is an obligate intracellular parasite, able to infect all homeothermic animals mostly through ingestion of food or drinks contaminated with tissue cysts or oocysts^{1,2,3}. Recently, we showed a *T. gondii* strain-specific clearance from tissues upon infection in pigs. While the swine-adapted LR strain persisted in muscle tissues, the human-adapted Gangji strain was cleared from these tissues⁴. We hypothesized that intestinal immune responses short after infection might play a role in this strain-specific clearance. To assess this possibility, we investigate the parasite load in duodenal, jejunal and ileal lymph node cells and blood immune cells (PBMCs) as well as the IFN γ secretion by these cells at post oral inoculation of pigs with both strains. In addition, we also investigated parasite load in lungs and heart tissues to obtain insights in the preferable organs to develop tissue cysts.

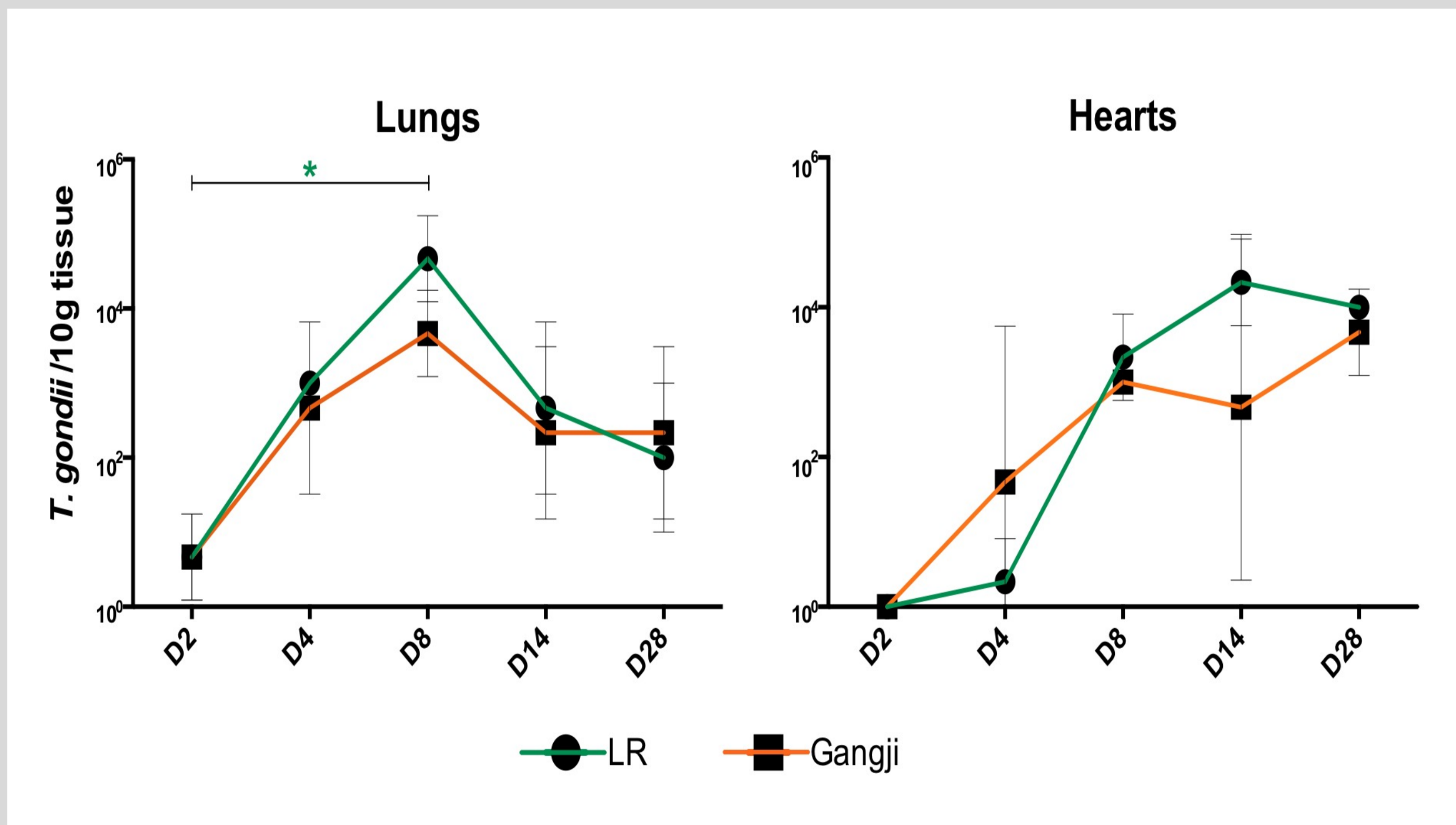
1. Experimental set-up



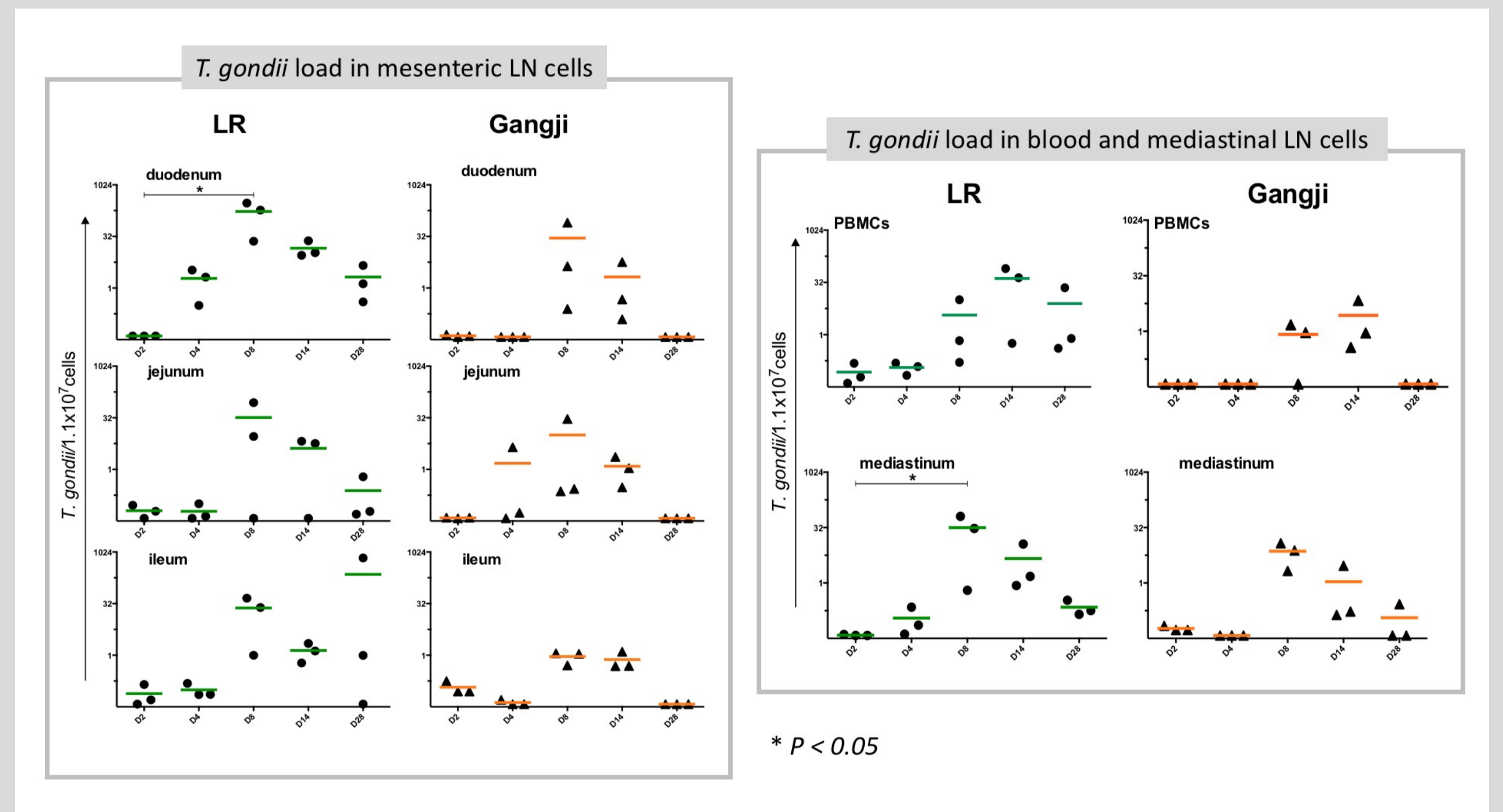
2. *T. gondii* strains trigger different kinetics of serum IgG responses



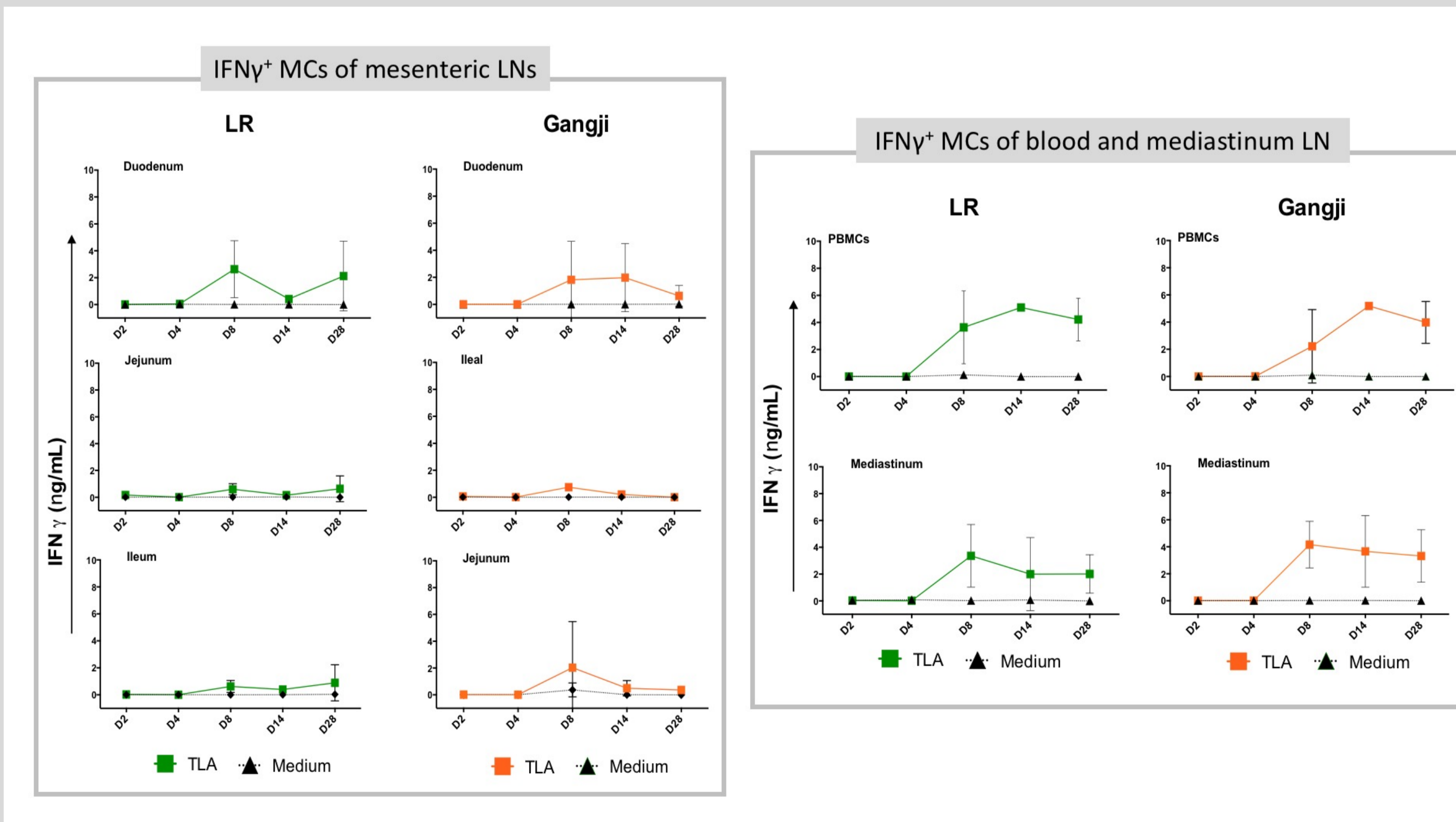
3. Heart is the preferable site for persistence in both strains



4. P-load indicates *T. gondii* LR strain initially enters the host via the duodenum, whereas this is not so clear for the Gangji strain



5. *T. gondii* antigen specific T cells appear at D8 post inoculation in both strains



6. Conclusion:

The parasite load kinetics of LR and Gangji strains were the same; however, with Gangji strain, the parasite load was much lower. This was also reflected in serum IgG response in both groups. Unexpectedly, this was not reflected in the IFN γ secretion

T. gondii LR strain first enters the host at the duodenum and then probably disseminates from this site to the other host tissues

Heart should consider as the target organ to diagnose infected animal

References

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