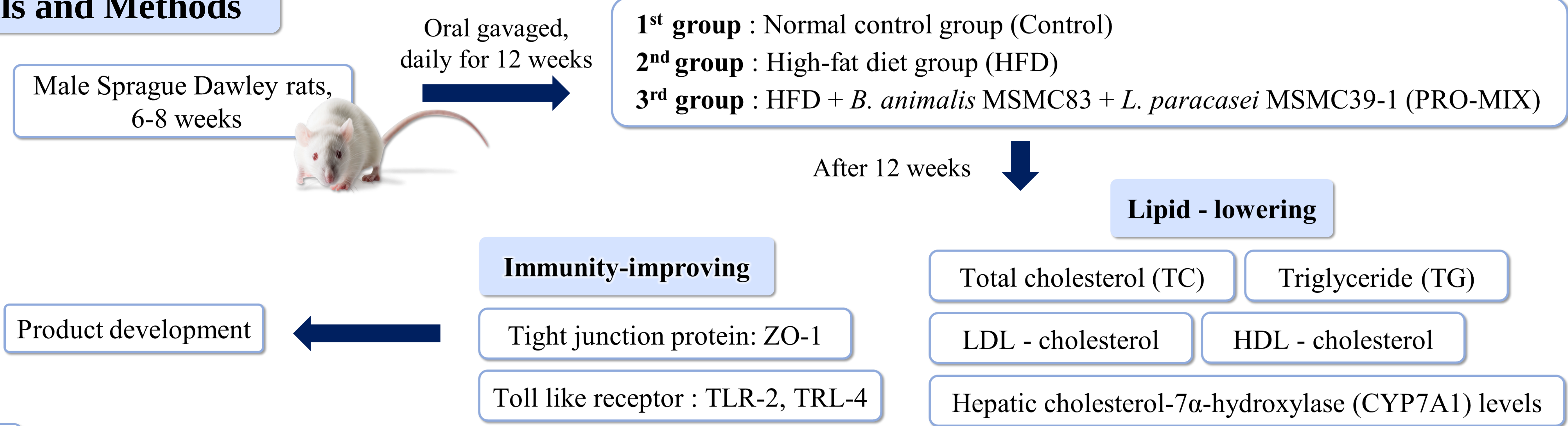


Introduction

Hyperlipidemia, an abnormally high level of lipids, such as cholesterol, in the body, negatively impacts health in various ways, partly by increased inflammation and suppressing innate immune responses. Probiotics are living microorganisms with proven efficacy in improving health. Among their many attributed benefits is the potential to reduce lipid levels in the body. Therefore, this study aims to evaluate the effectiveness of two Thai probiotic strains (*Lacticaseibacillus paracasei* MSMC39-1 and *Bifidobacterium animalis* MSMC83) in lipid-lowering and immunity-enhancing effects on hyperlipidemic rats.

Materials and Methods



Results

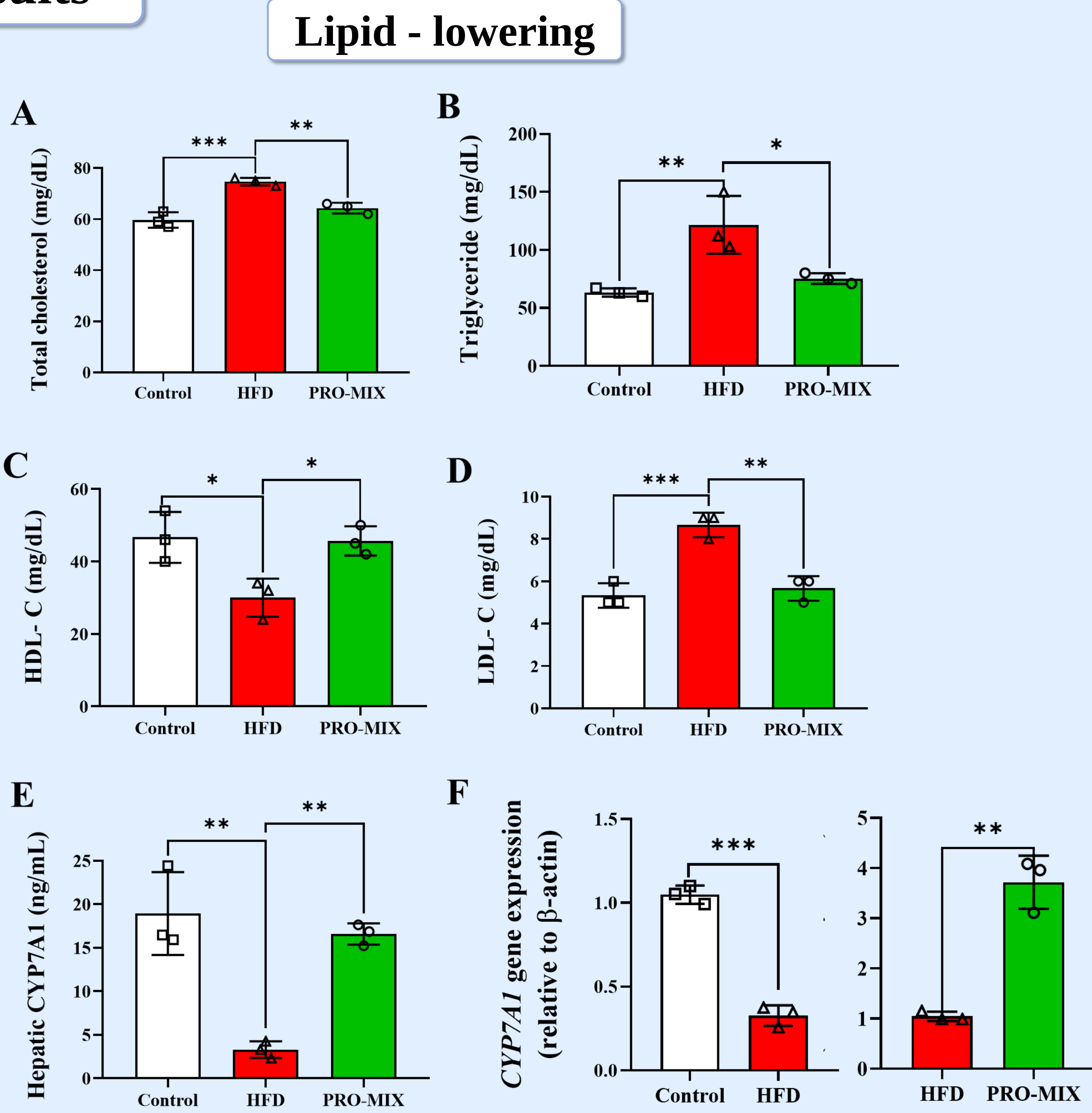


Fig.1 Effect of probiotic supplement on **A** total cholesterol (TC); **B** triglyceride (TG); **C** HDL- cholesterol; **D** LDL- cholesterol; **E** Hepatic CYP7A1; **F** CYP7A1 gene expression. Values are express as Mean ± SD, **p* < 0.05, ***p* < 0.01, ****p* < 0.001 compared with the HFD.

Immunity-improving

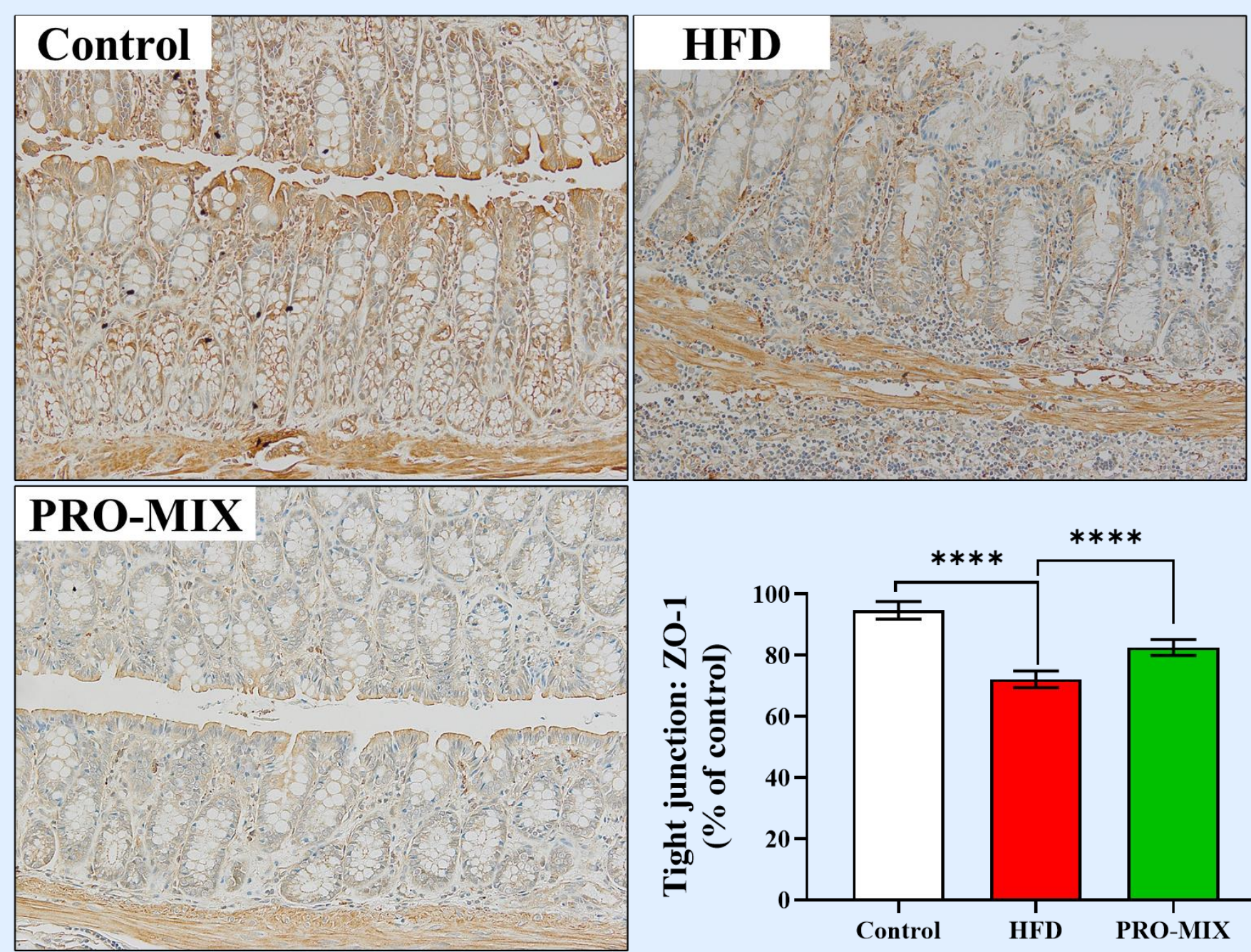


Fig.2 Effect of probiotic supplement on **Tight junction protein: ZO-1** in colon tissue. Values are express as Mean ± SD, *****p* < 0.0001 compared with the HFD.

Toll like receptor : TLR-2, TRL-4

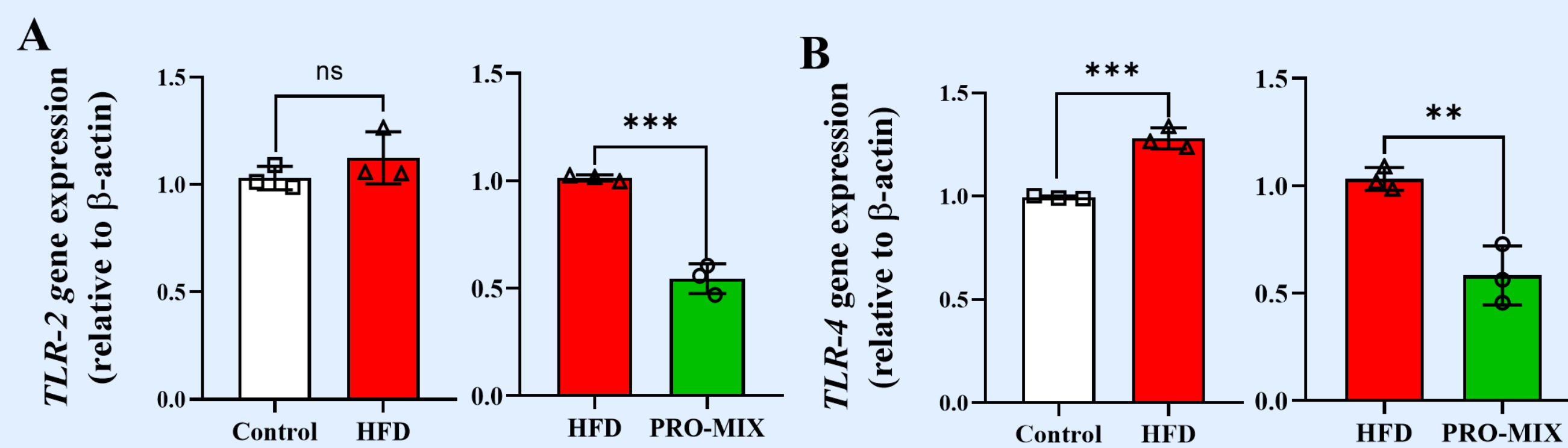


Fig.3 Effect of probiotic supplement on **A** TLR-2 gene expression relative to β-actin; **B** TLR-4 gene expression relative to β-actin. Values are express as Mean ± SD, ***p* < 0.01, ****p* < 0.001 compared with the HFD.

Conclusion

Function test in animal model

- ✓ Lipid - lowering
- ✓ Immunity - improving

Biotechnological process: Fermentation - Scale up



Technology transfer



Products development & Commercialization



Acknowledgement

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