工程化枯草芽孢杆菌通过调控肠道miR-1250-5p/NF-κB通路改善ETEC K88感染仔猪肠道屏障功能

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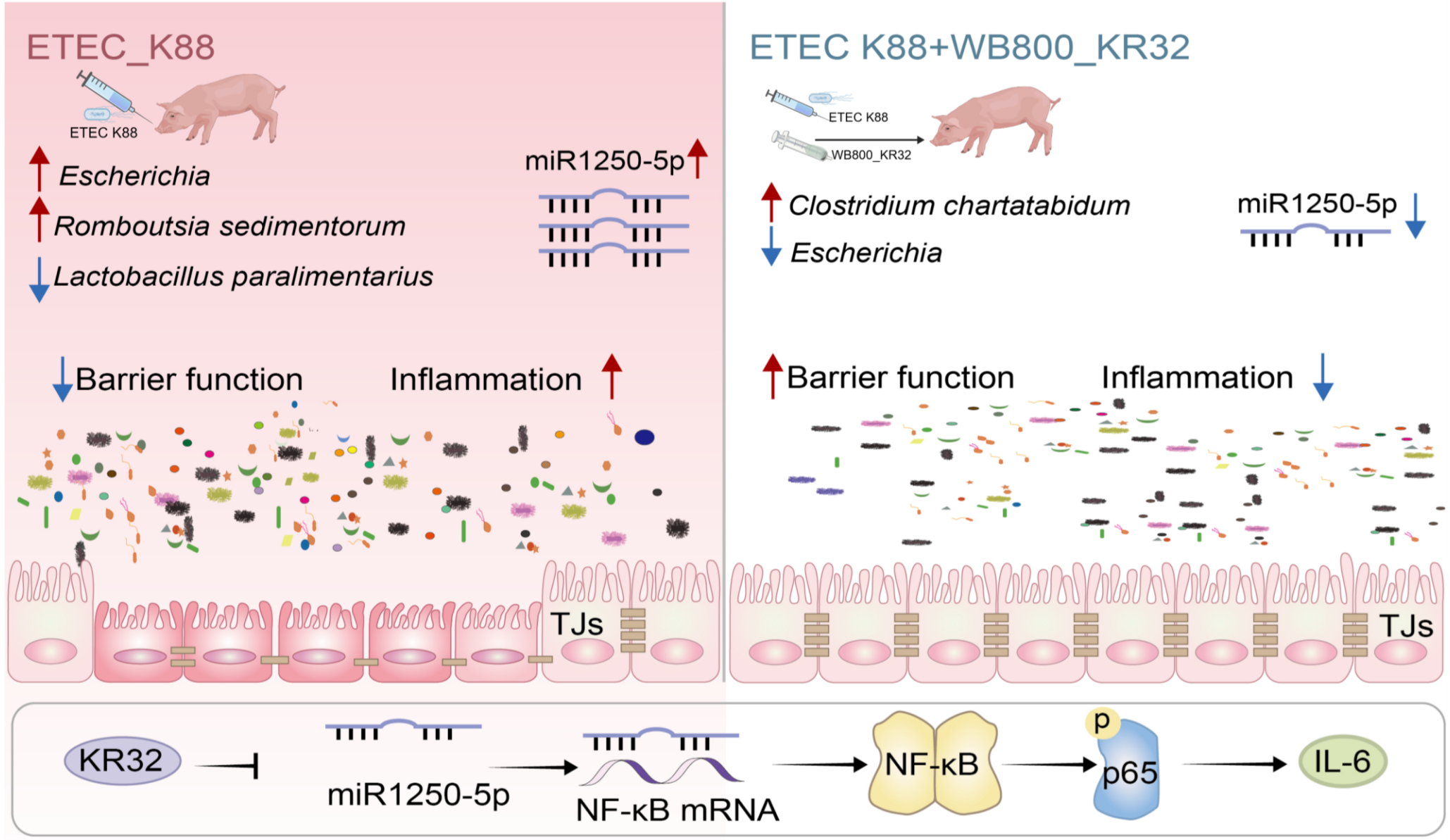
简介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ETEC K88
Escherichia
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miR1250-5p
Barrier function
Inflammation
TJs
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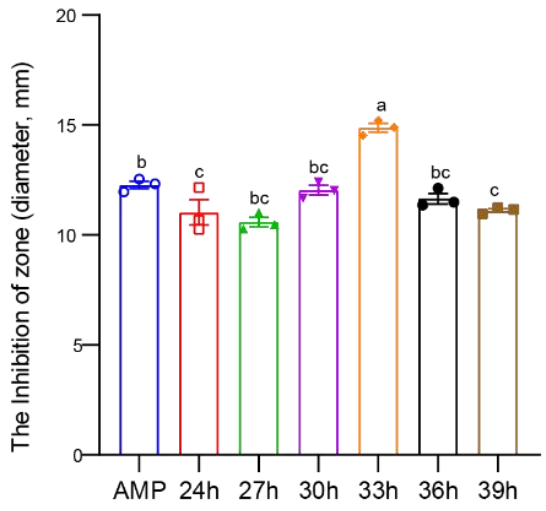
ETEC K88
WB800_KR32
Clostridium chartatabidum
Escherichia
miR1250-5p
Barrier function
Inflammation
TJs
KR32
miR1250-5p
NF-κB mRNA
NF-κB
p
p65
IL-6

工程菌WB800_KR32的生物活性与产量

(A)

(B)



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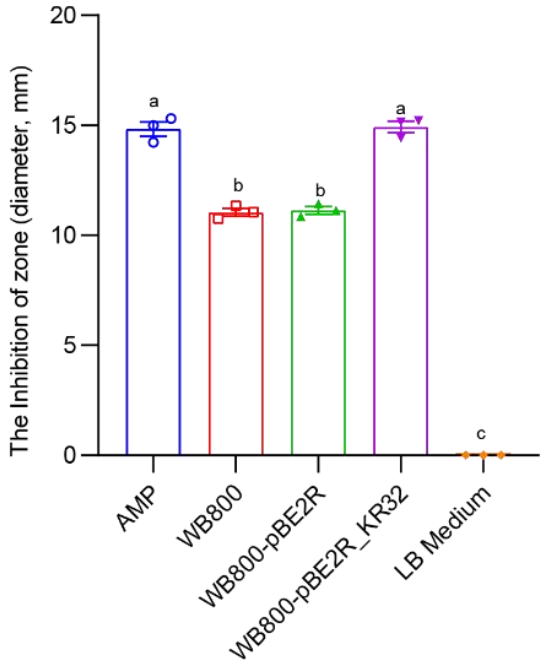

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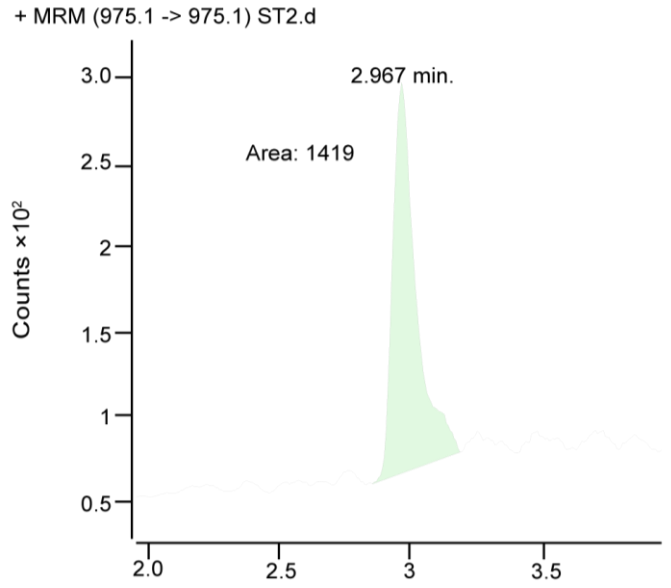

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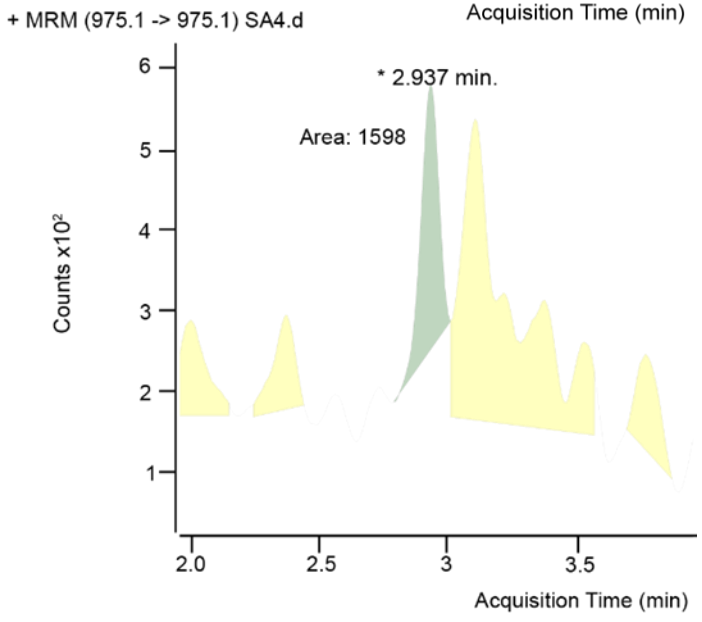

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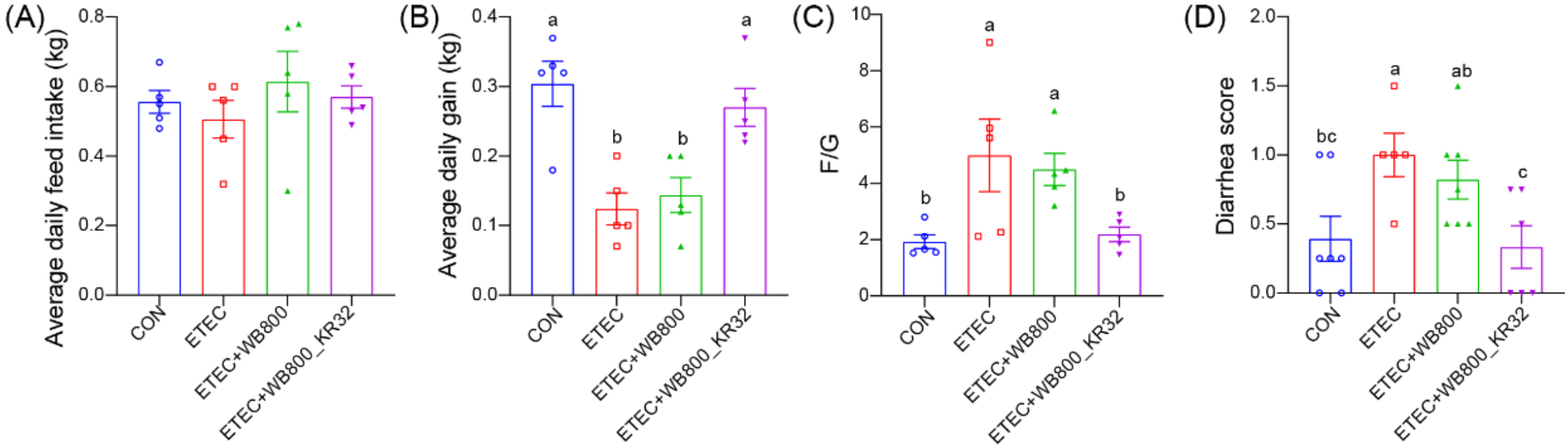

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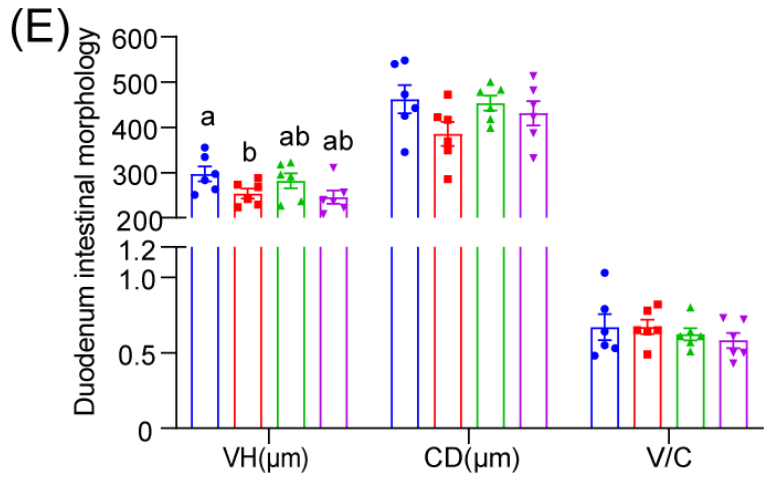

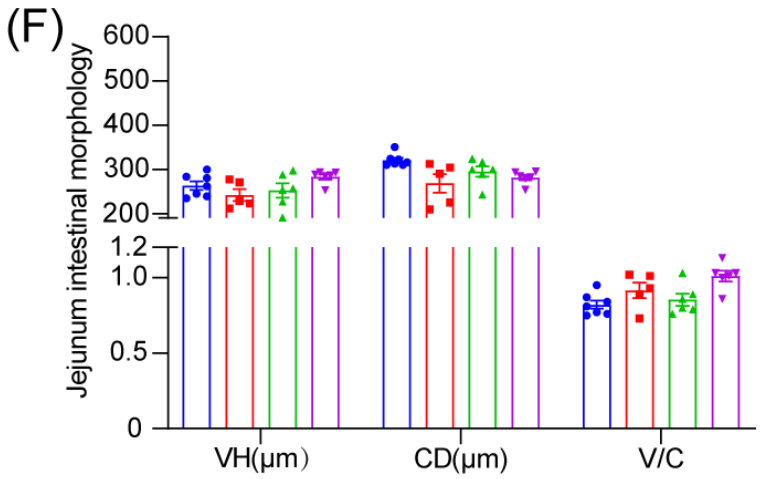

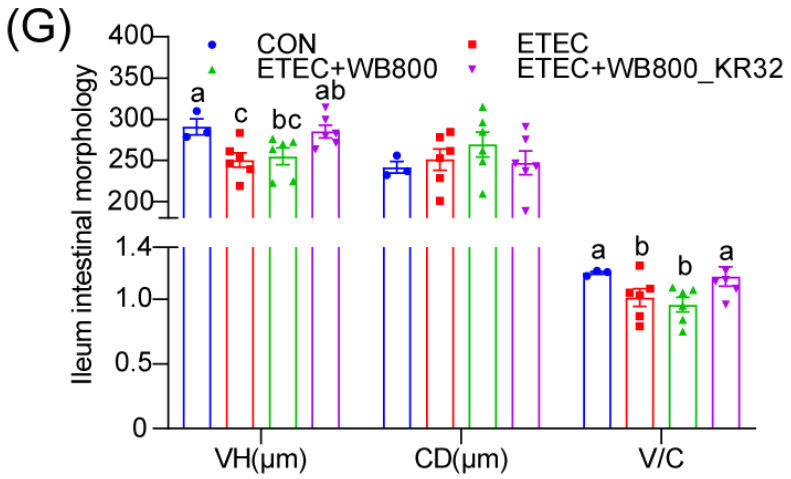

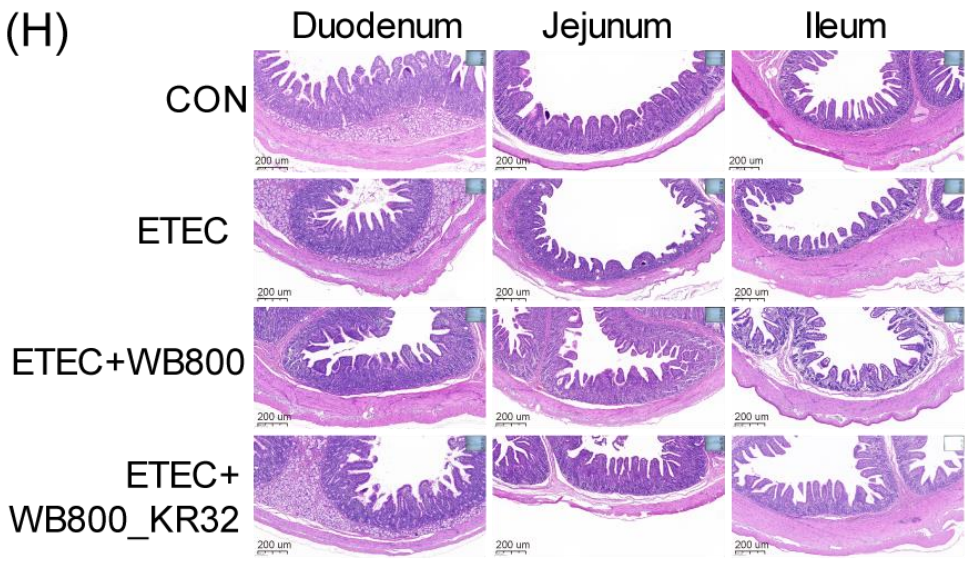

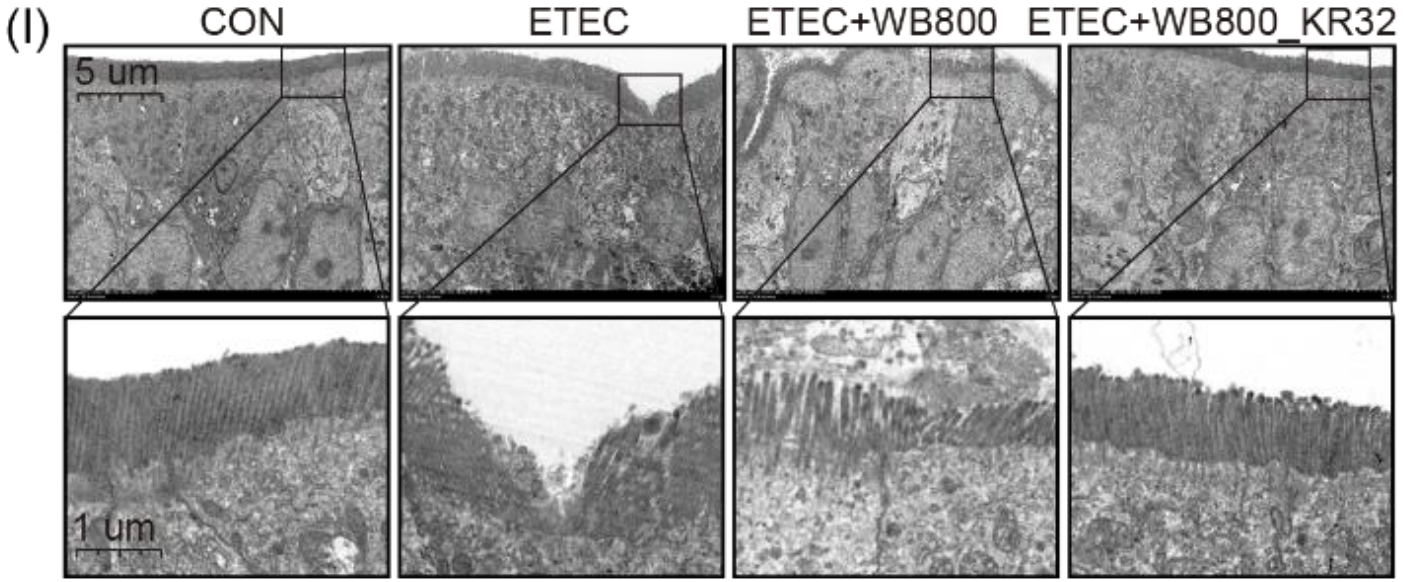

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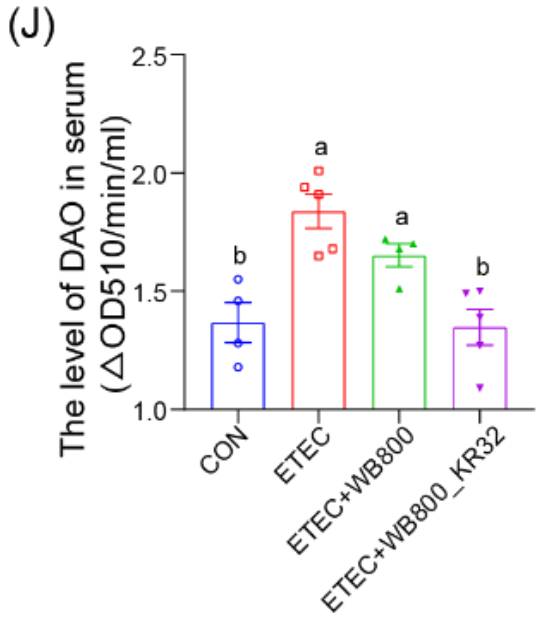
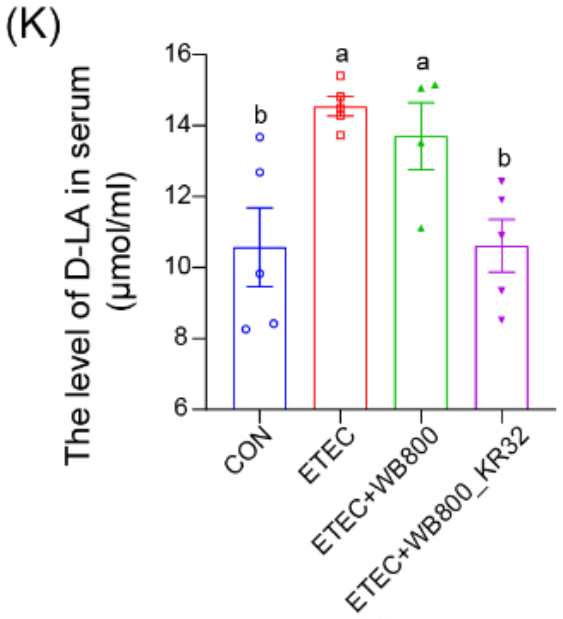
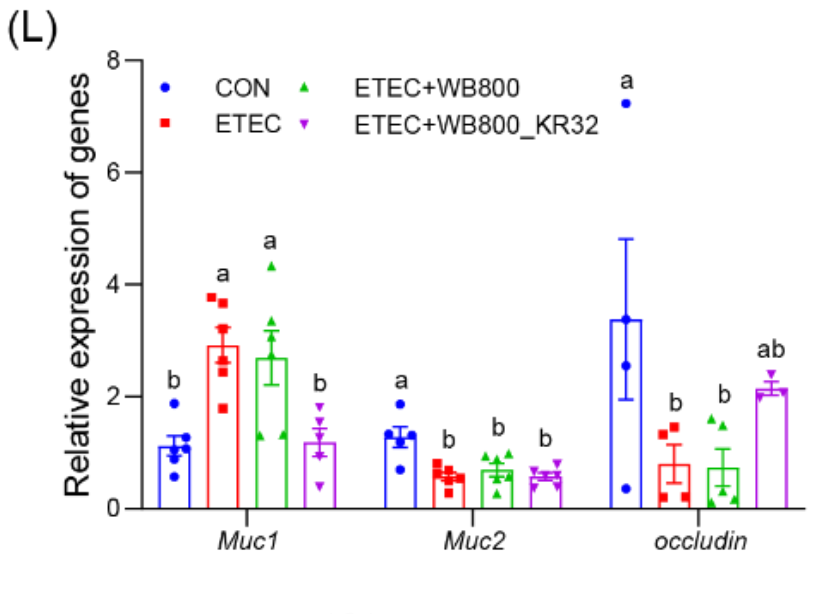
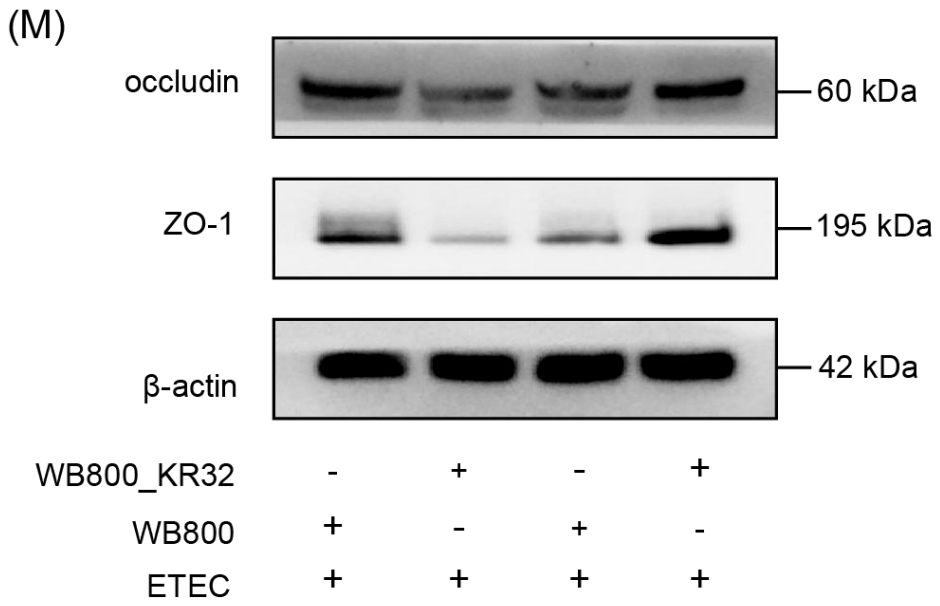
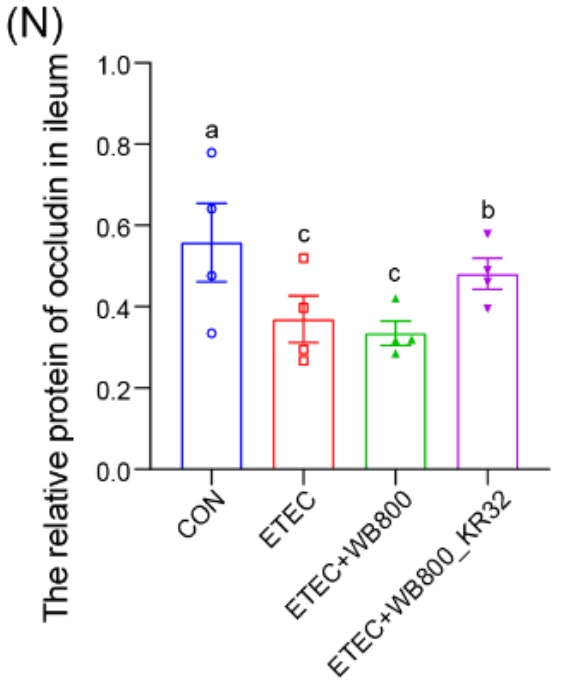
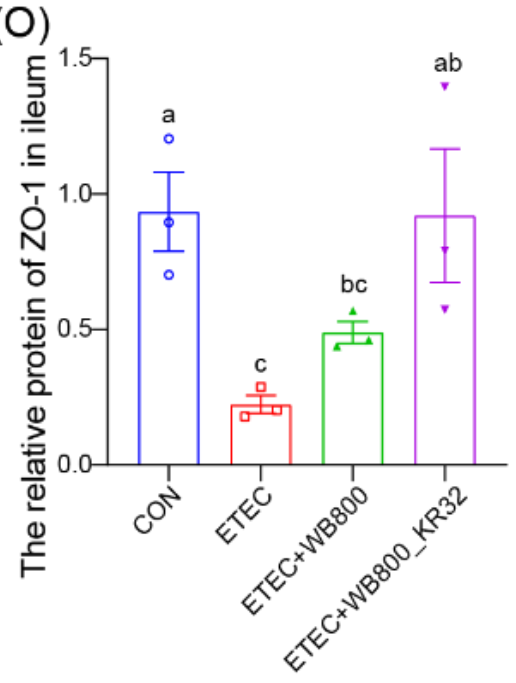




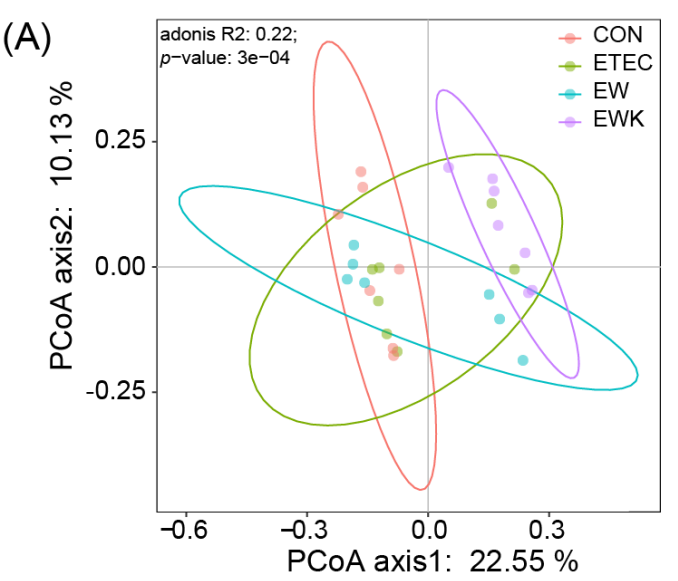


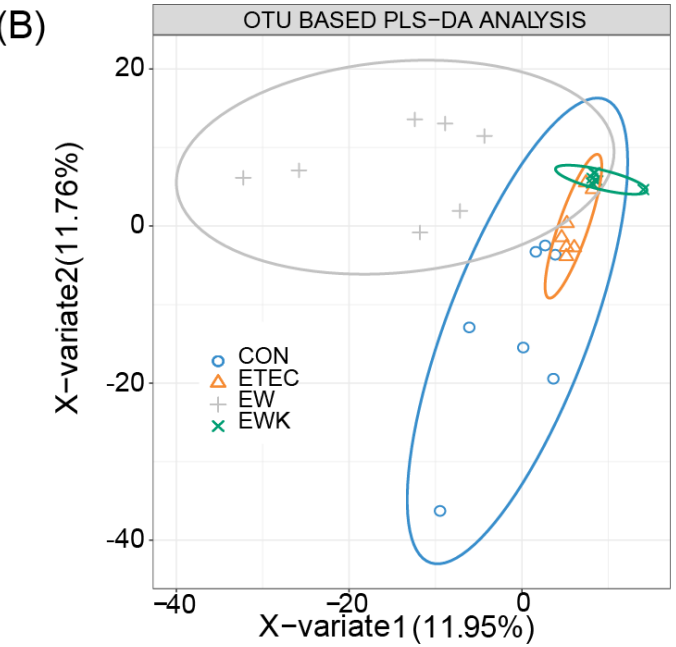


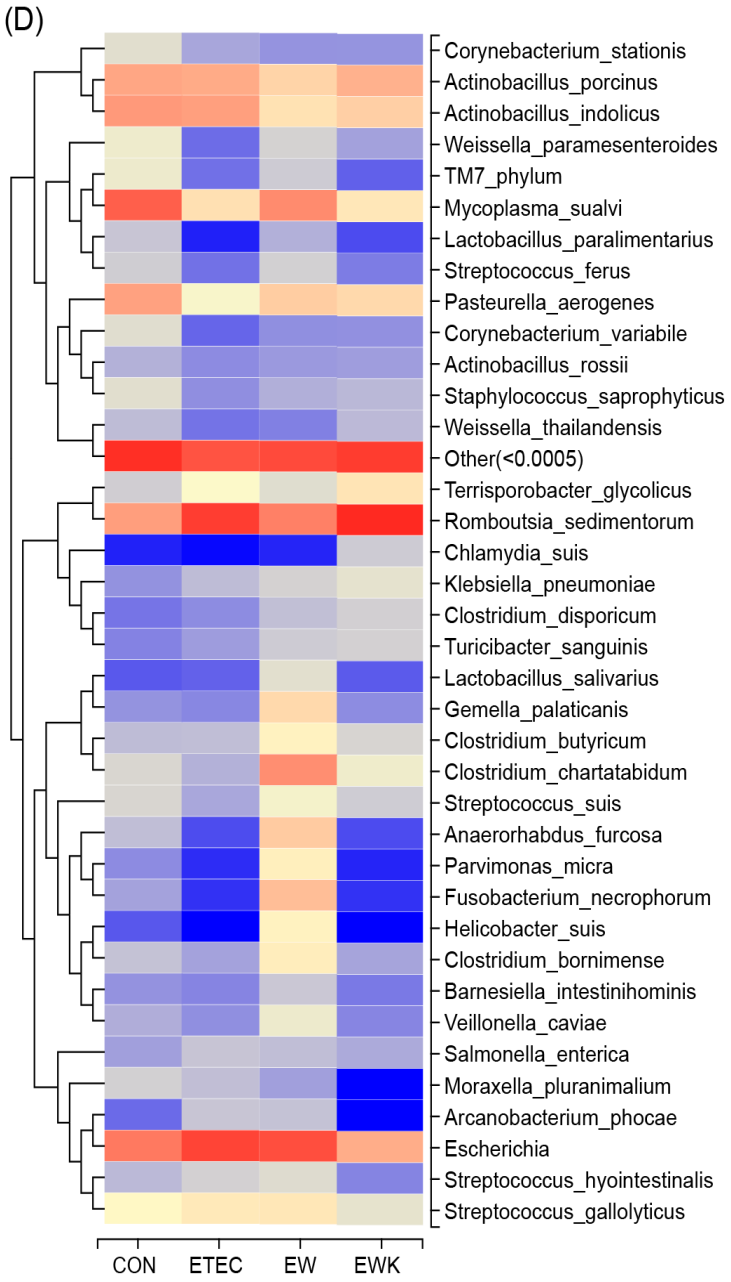


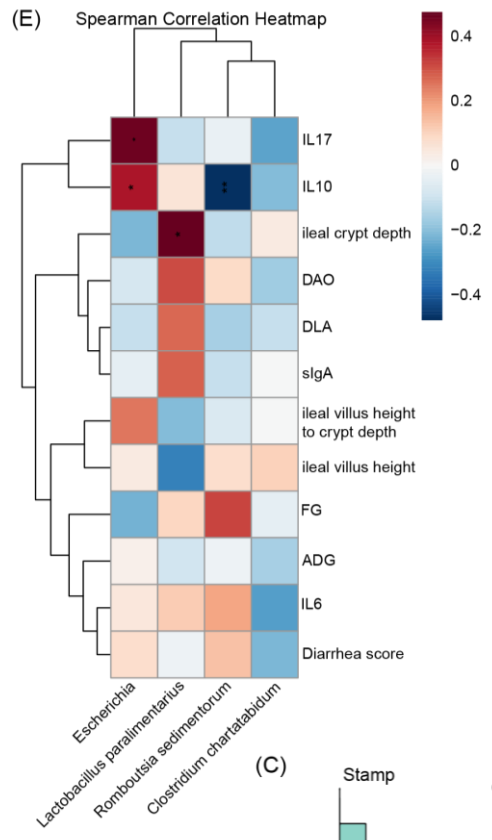


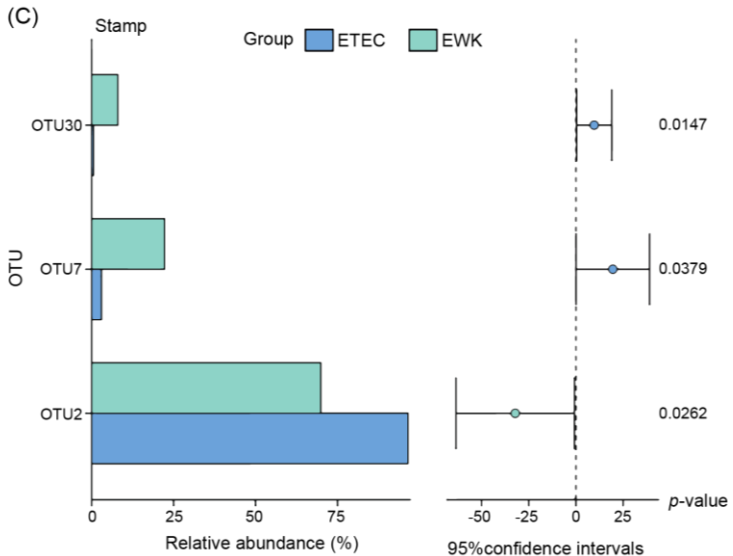
WB800_KR32工程菌对回肠微生物屏障的影响











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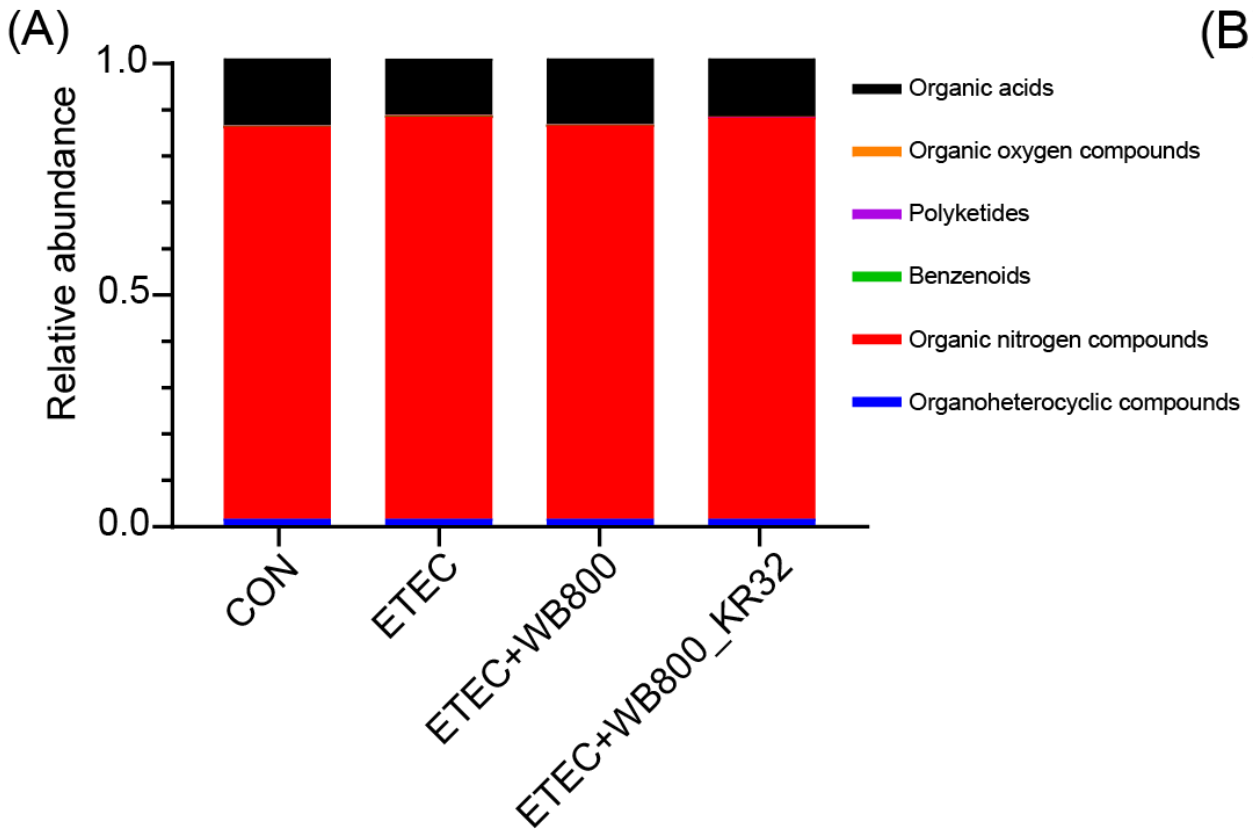

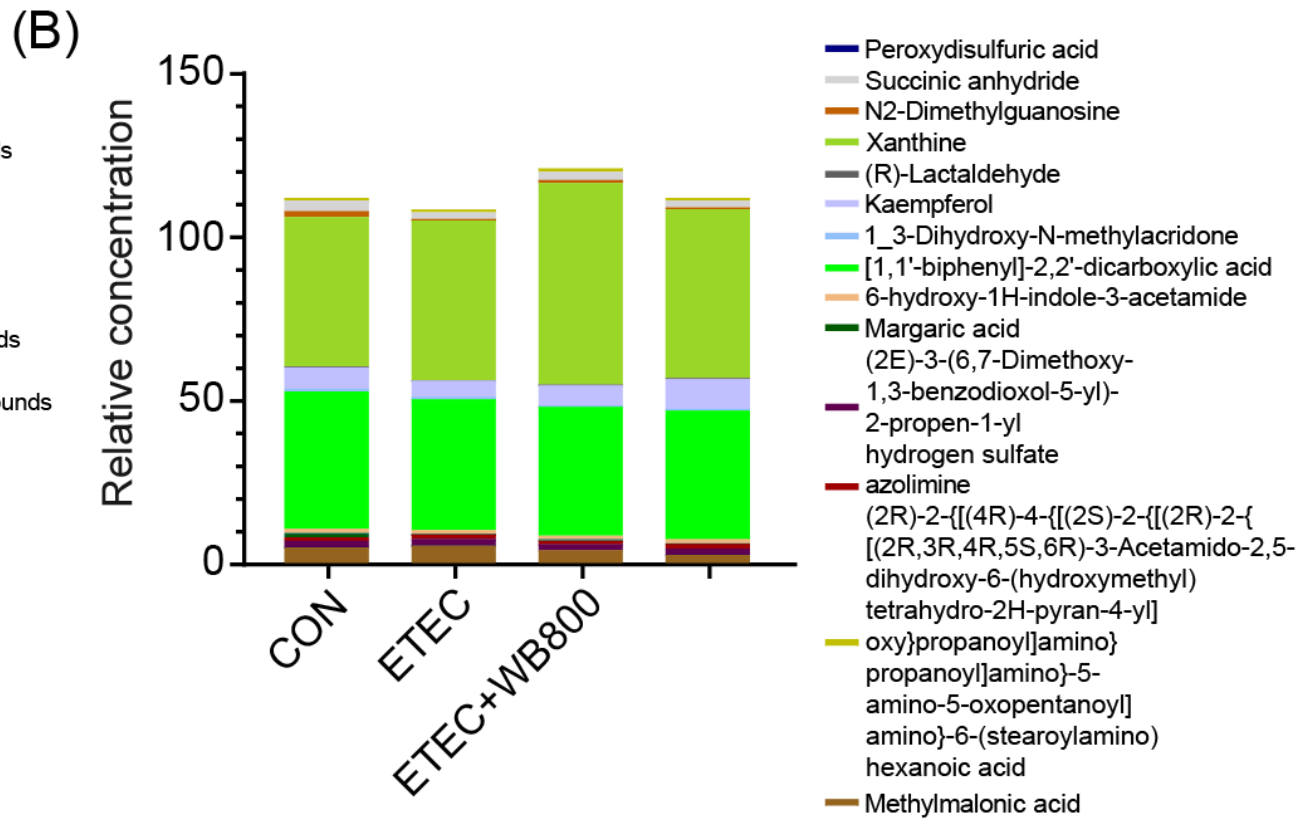

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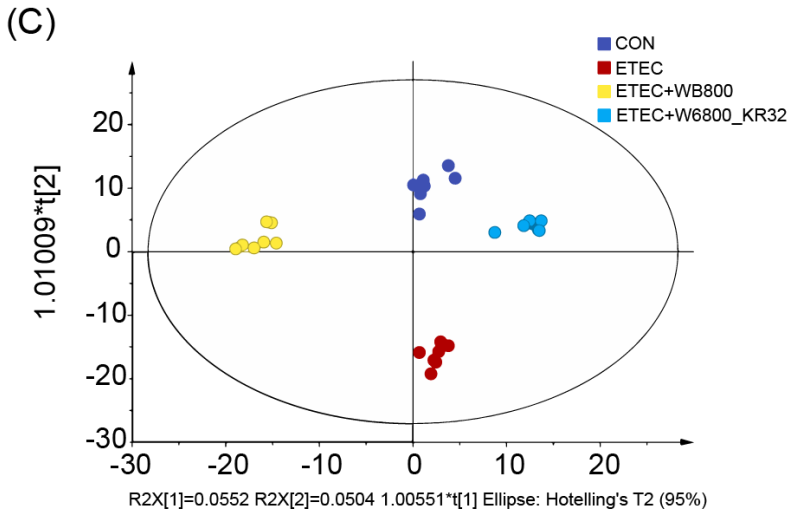
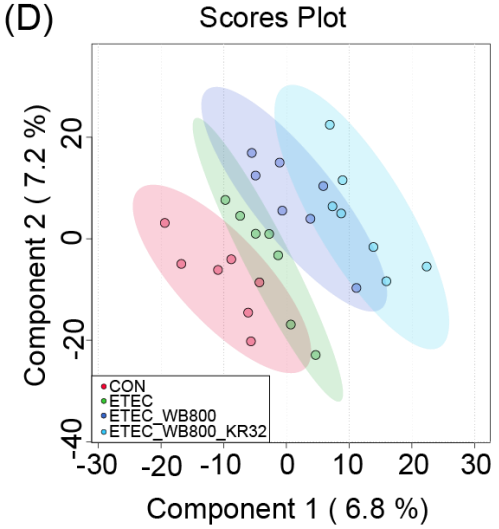
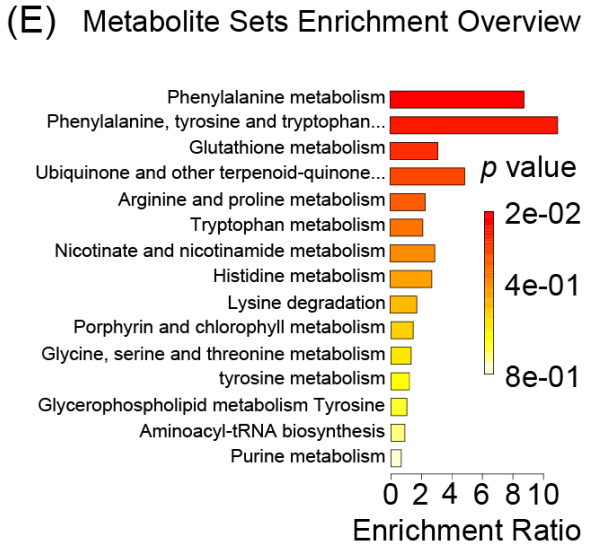
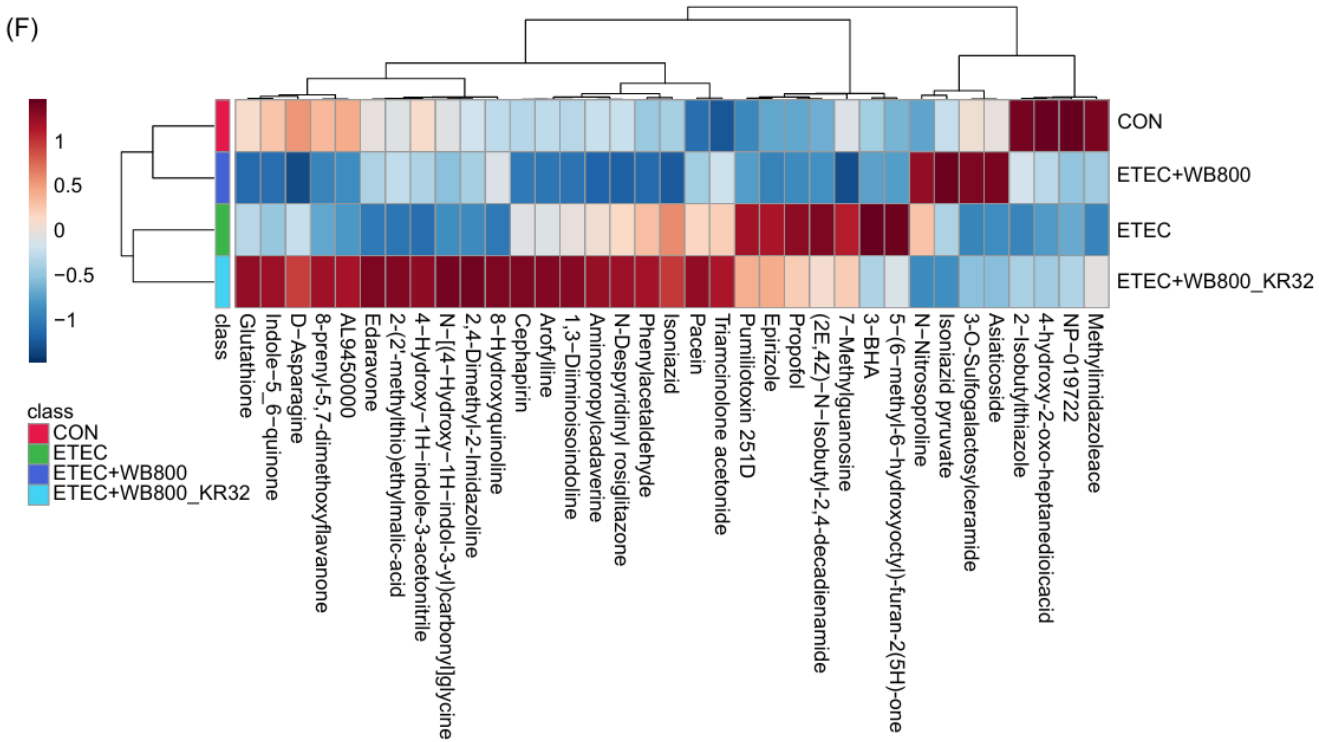
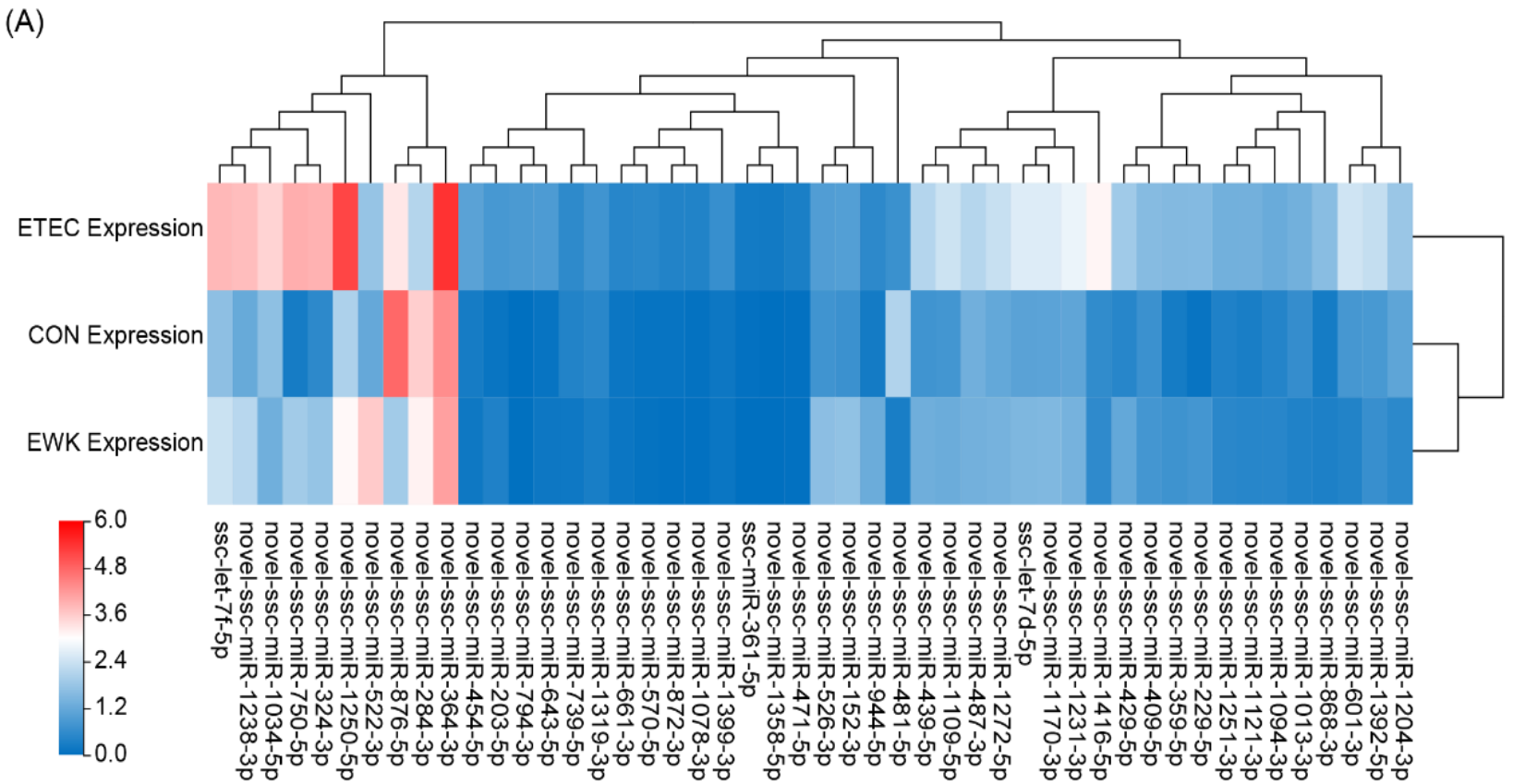


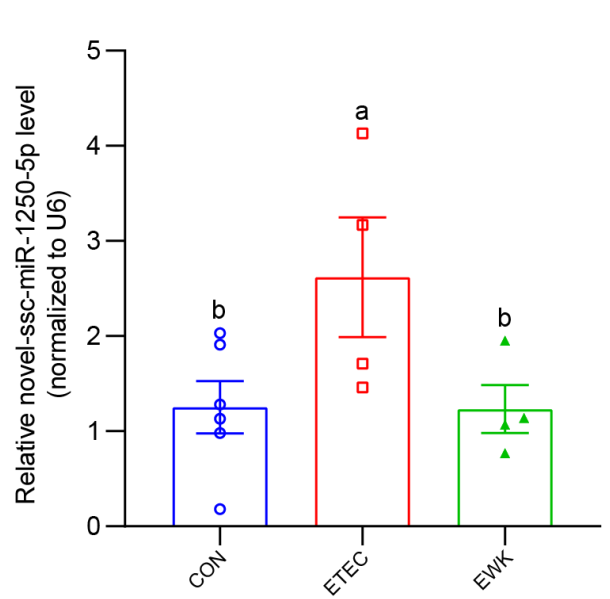


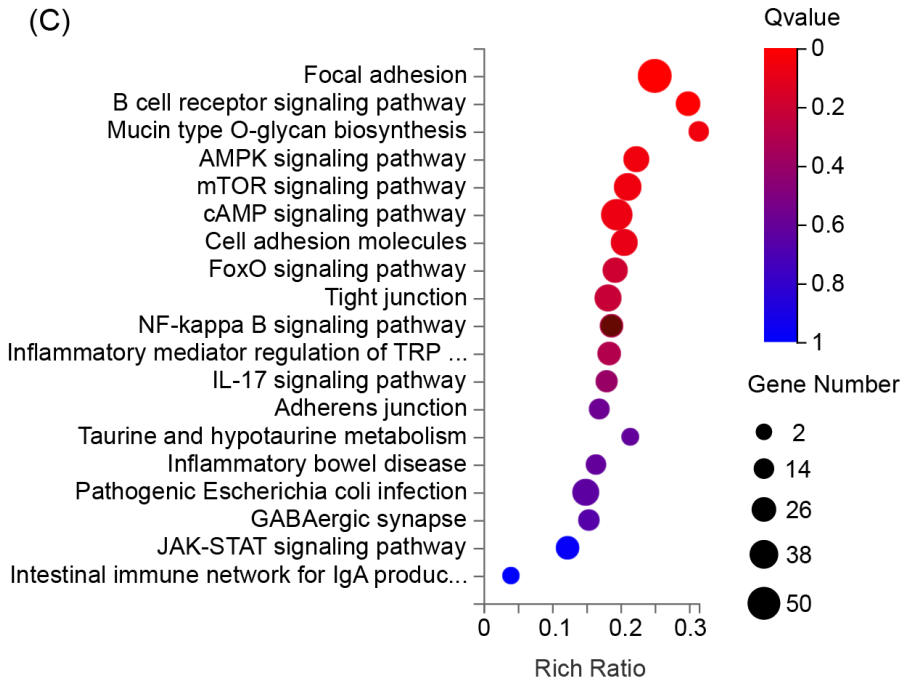




WB800_KR32工程菌对回肠miRNAs的影响







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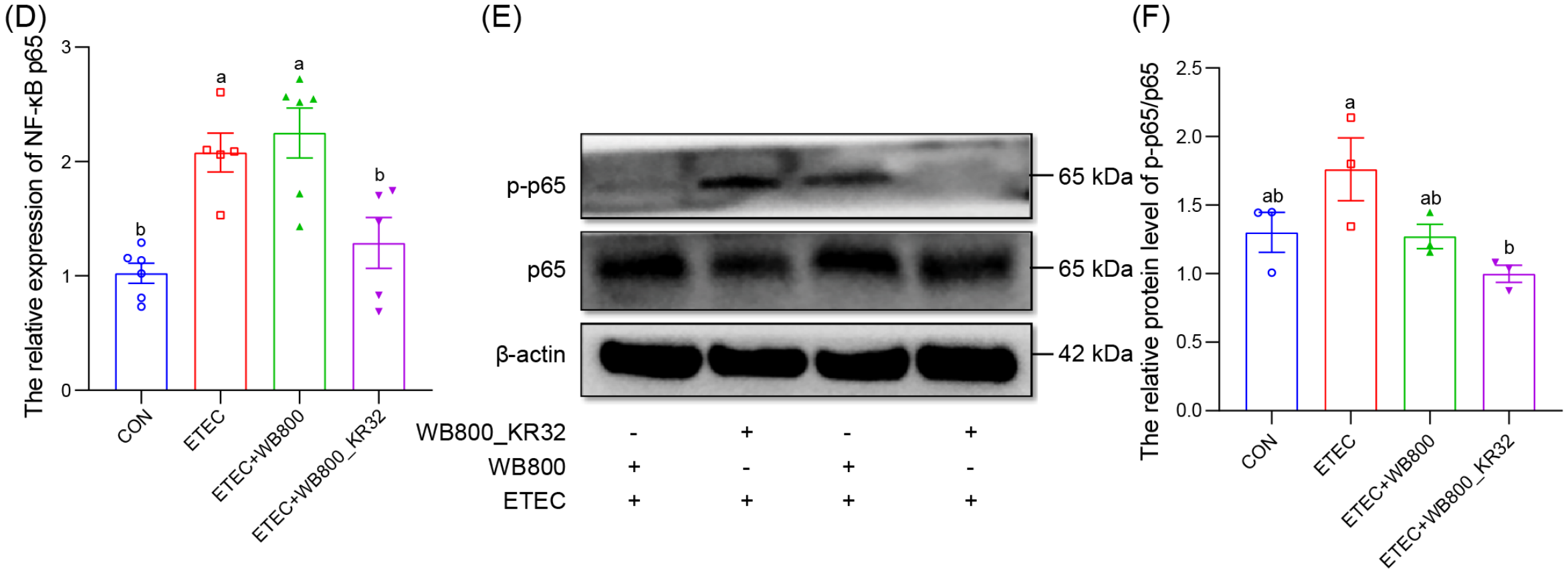
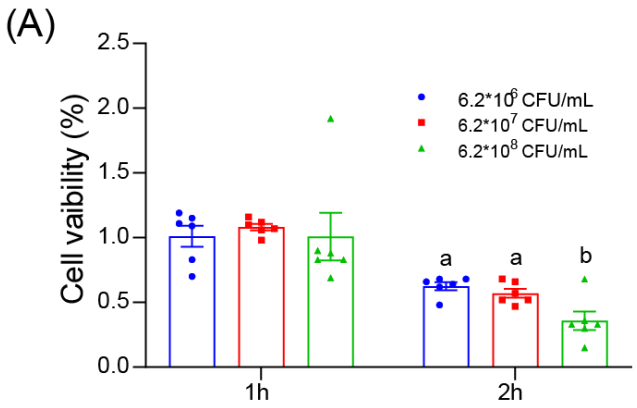
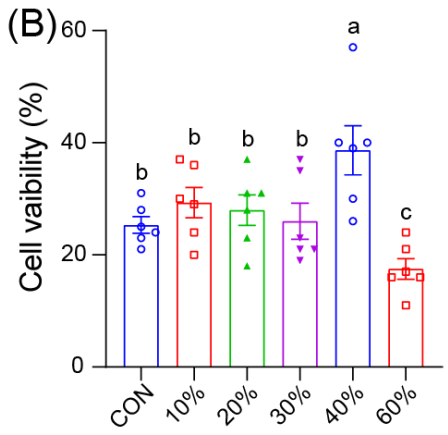
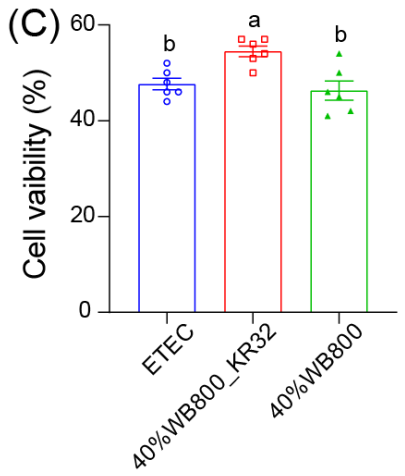
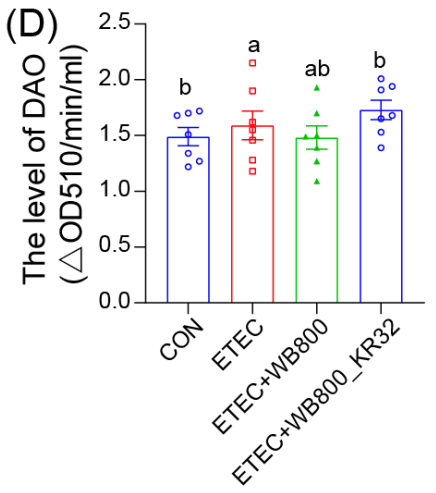


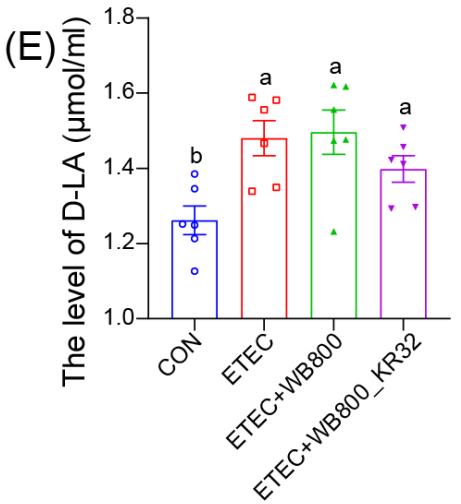
ETEC 感染条件和WB800_KR32上清处理条件的确立

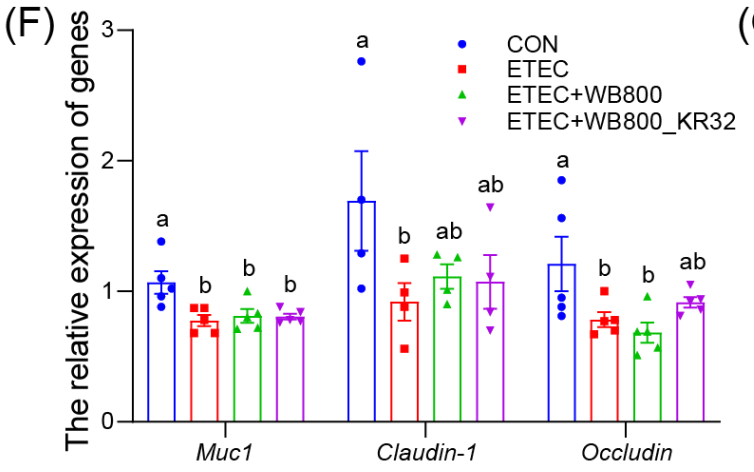


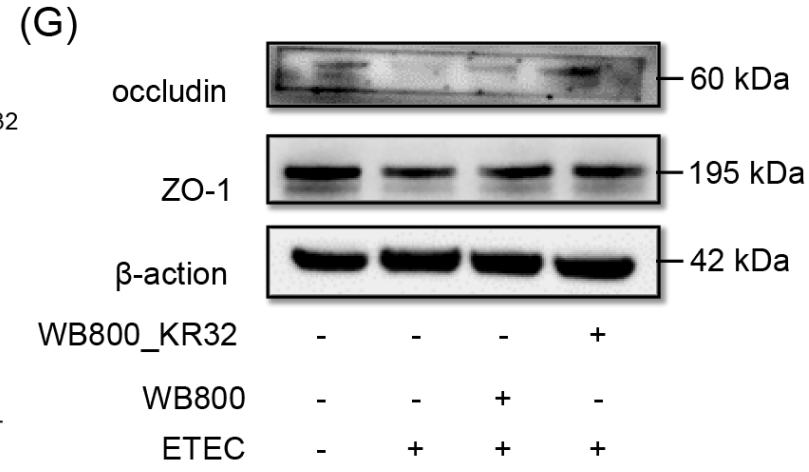


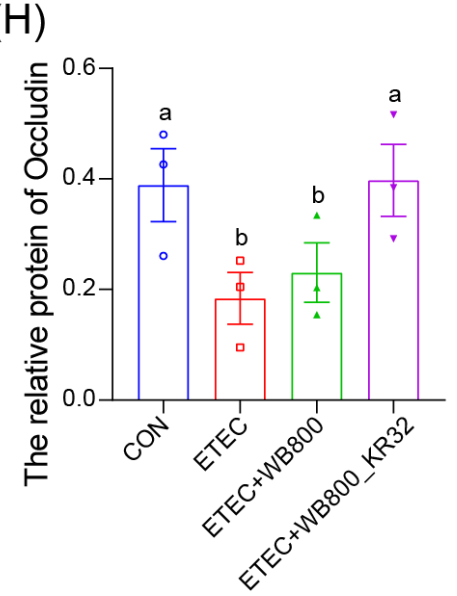


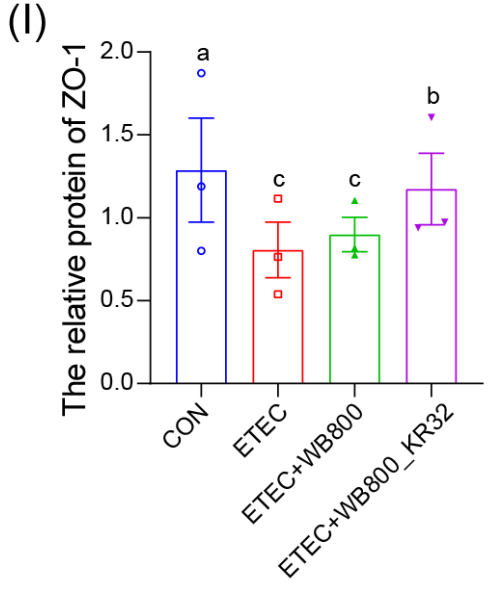




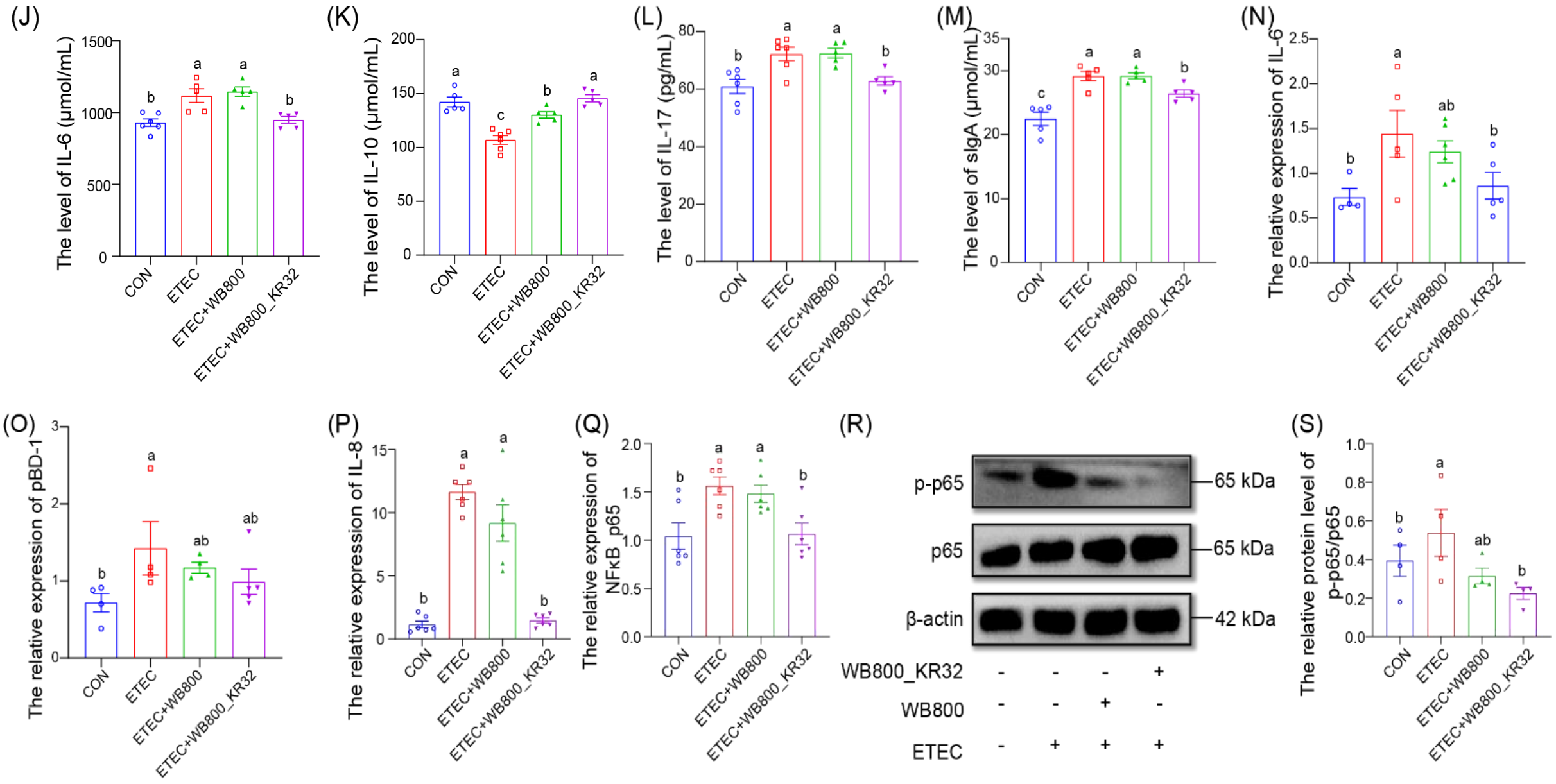








WB800_KR32上清对ETEC K88感染IPEC-J2免疫屏障的影响



总结

- 工程化WB800_KR32在ETEC K88感染仔猪及IPEC-J2模型中均展现出显著的保护作用。
- 其通过novel ssc-miR-1250-5p/NFκB/IL-6信号通路有效调控肠道屏障功能，且保护效果显著优于仅具基础作用的亲本WB800菌株。
- 本研究为利用工程化益生菌递送抗菌疗法提供了新的研究视角和应用策略。

Chaoyue Wen, Hong Zhang, Qiuping Guo, Yehui Duan, Sisi Chen, Mengmeng Han, Leli Wang, et al. 2026. Engineered Bacillus subtilis regulates intestinal barrier in ETEC K88-infected piglets and modulates miR-1250-5p/NFκB pathway in IPEC-J2. ***iMetaOmics*** 3: e70094. https://doi.org/10.1002/imo2.70094

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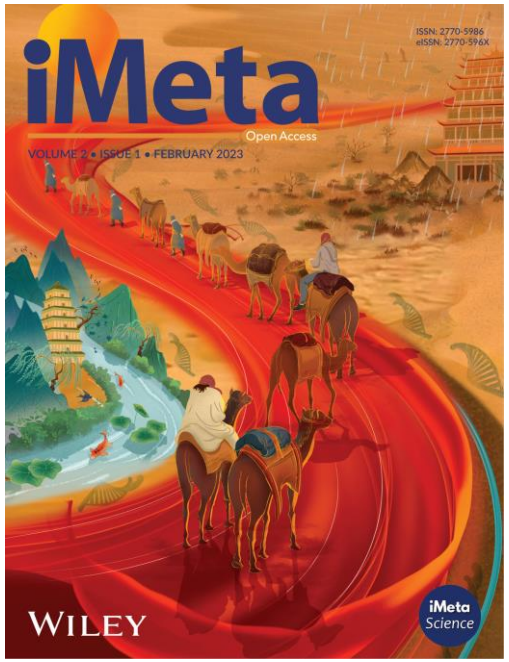

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