

Tiamulin vs. E. coli: who would win?

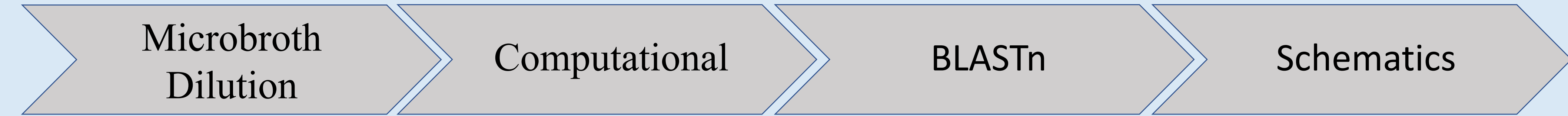
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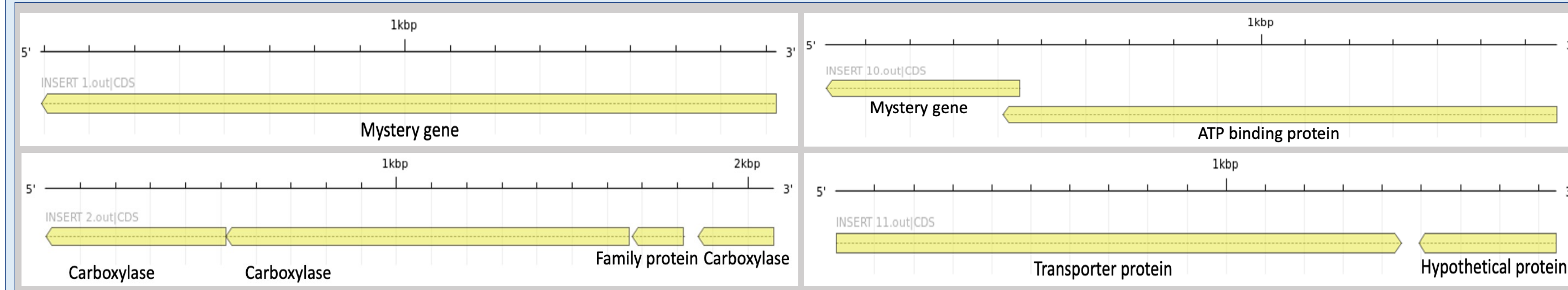
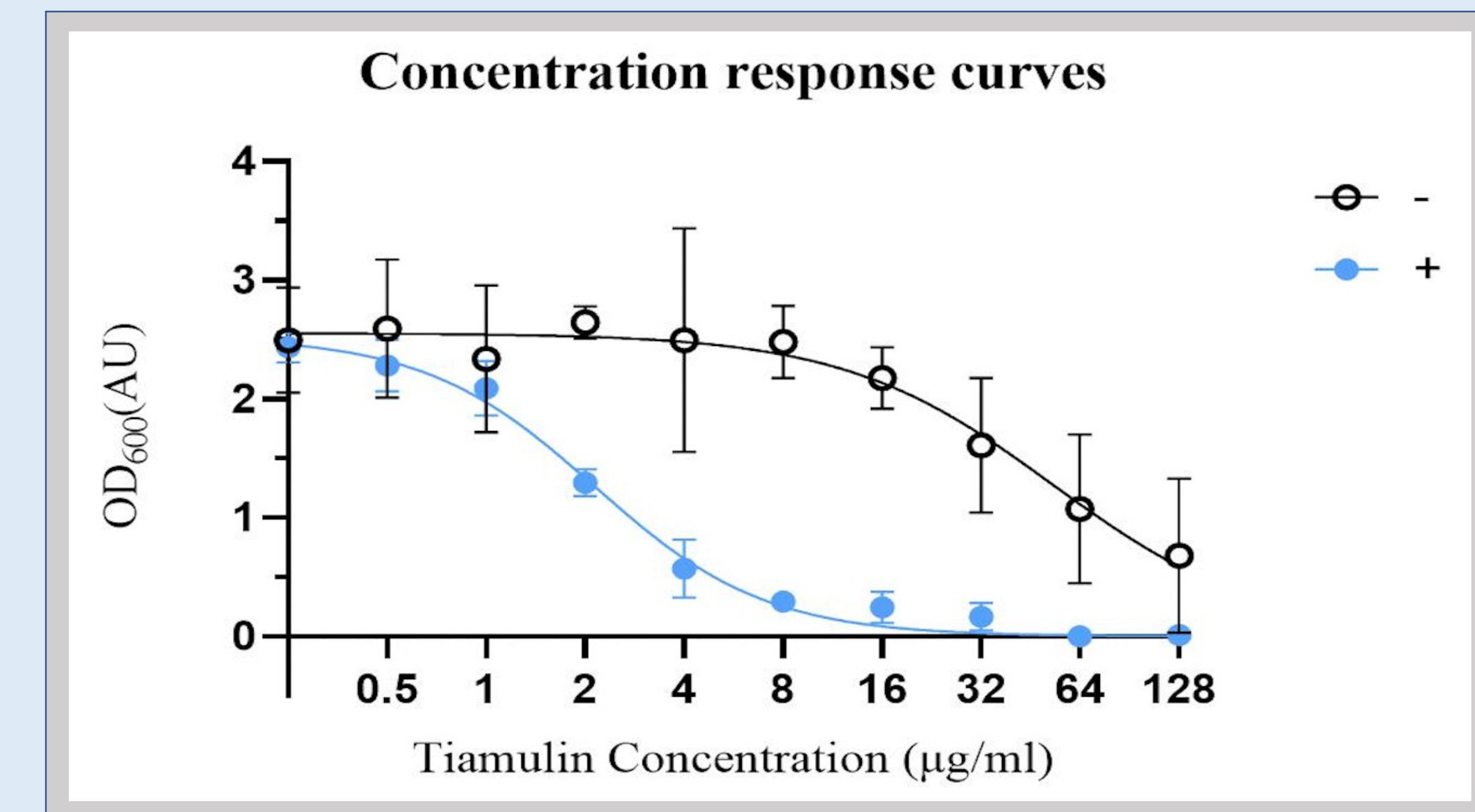
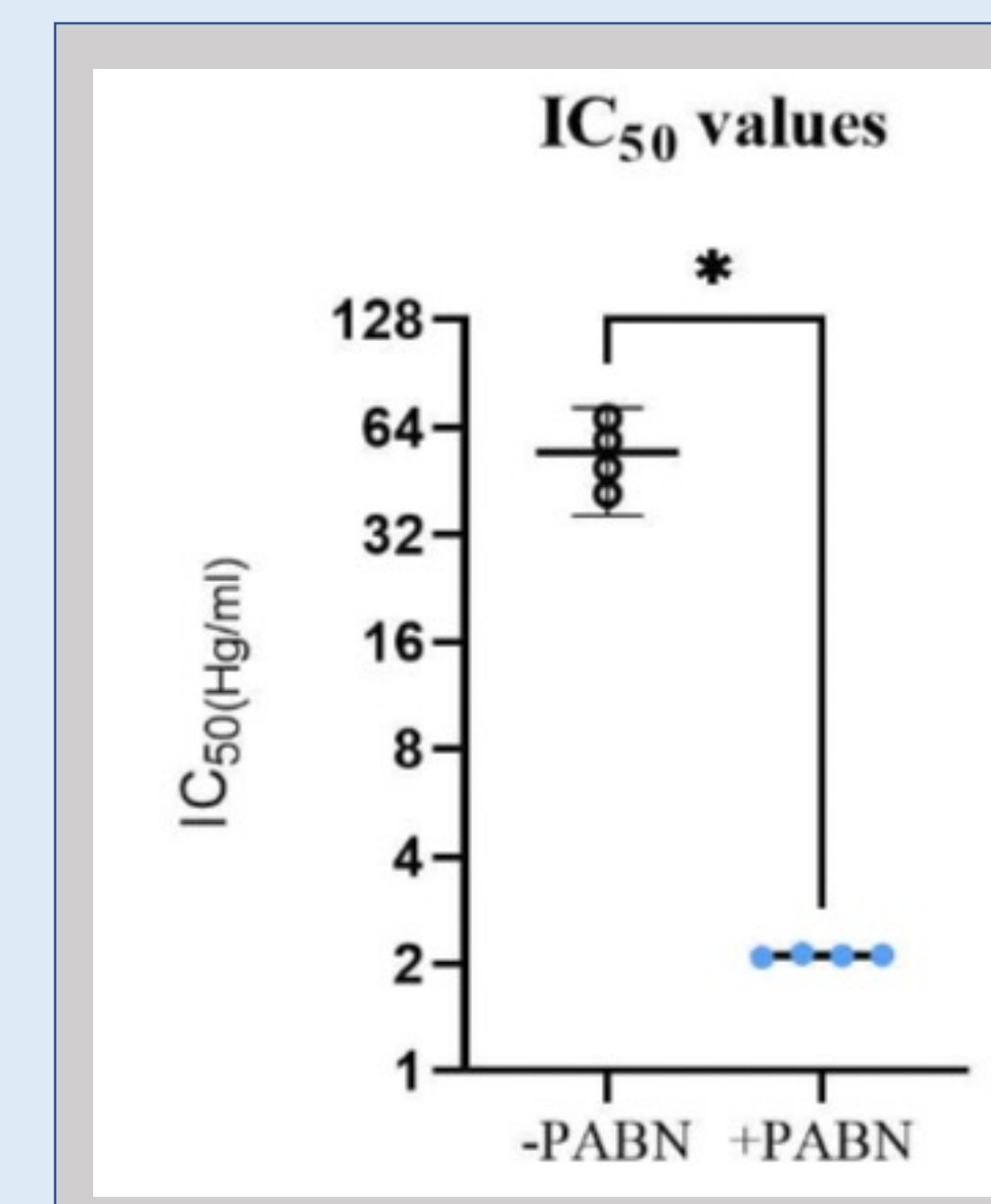
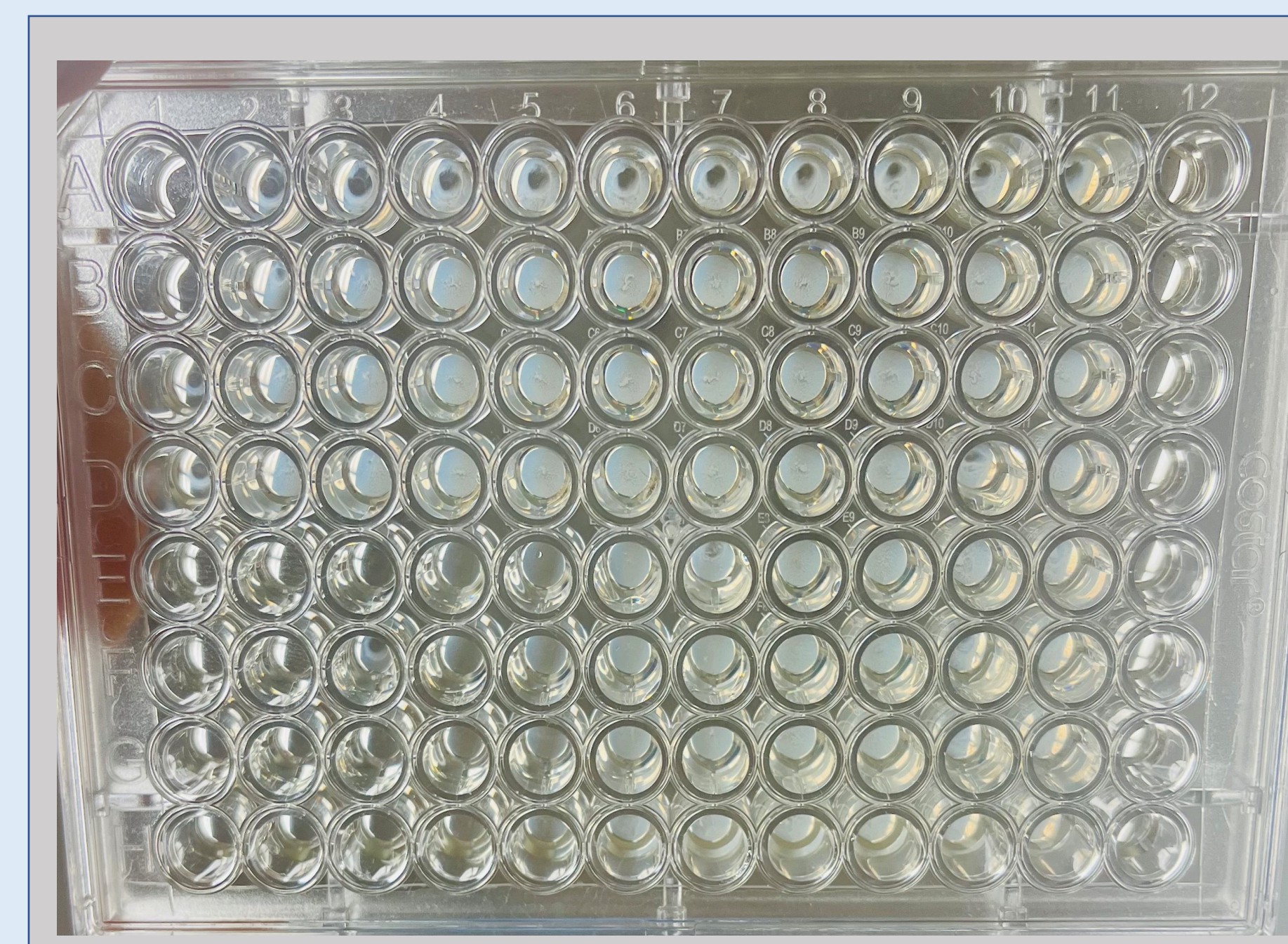
Abstract

- Increase in antibiotic resistance over the past few decades.
- This study specifically investigates Tiamulin, an antibiotic from the mulin family.
- Research shows that after a functional metagenomic selection and the sequencing of resistant colonies, some mystery genes were found to give resistance.
- E. coli doesn't typically show much interest in Tiamulin, it has been found that with an efflux inhibitor, they stop its growth.
- The goal in this study is to PCR amplify the mystery genes, clone them into a plasmid and put them in E. coli, and lastly measure E. coli tiamulin resistance.

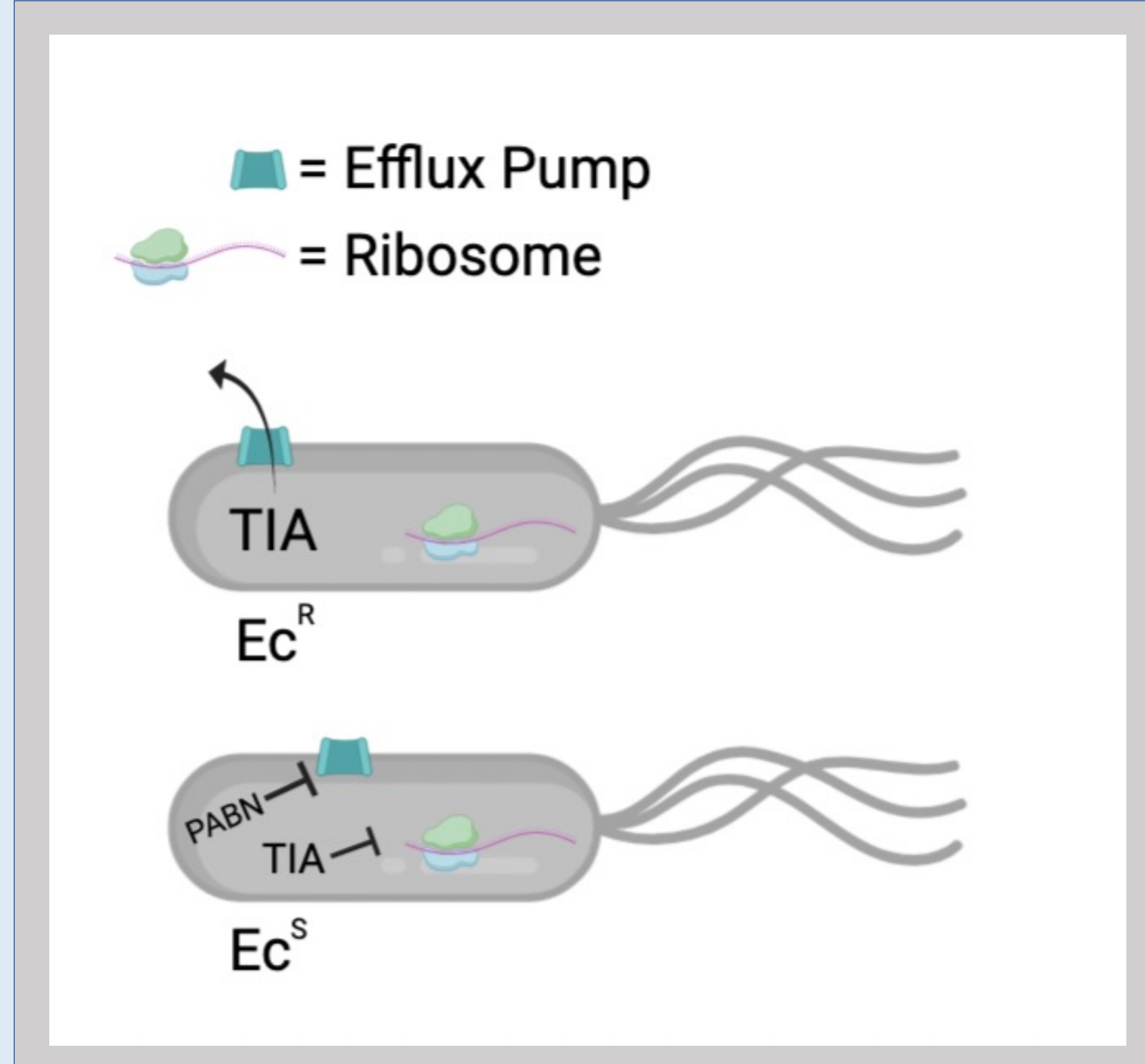
Current Methods



Results



How Tiamulin and PABN work:



Conclusion

- The microbroth dilution results show the effect PABN has on the effectiveness of Tiamulin.
- PABN makes tiamulin much more effective against e. Coli.
- Strong carboxylase presence found among inserts from functional metagenomic library after blastp.

Acknowledgements

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References

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- Card, Roderick M et al. "Identification of a New Antimicrobial Resistance Gene Provides Fresh Insights Into Pleuromutilin Resistance in *hyodysenteriae*, Aetiological Agent of Swine Dysentery." *Frontiers in microbiology* vol. 9 1183. 19 Jun. 2018, doi:10.3389/fmicb.2018.01183

Future Projects

