

Efflux Pump Inhibition in Multiple Antibiotic-Resistant Bacteria

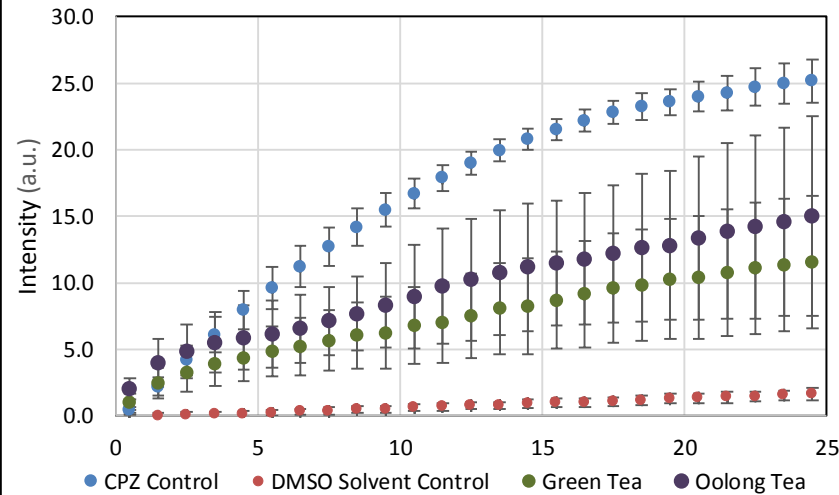
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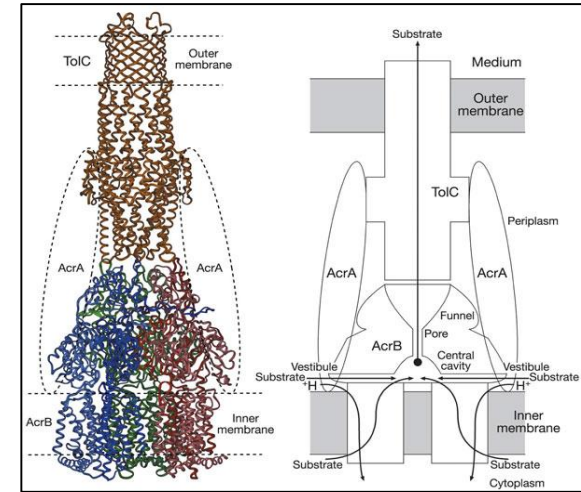
Introduction

One of the mechanisms various bacteria have developed to become resistant to antibiotics is the use of efflux pumps. Efflux pumps essentially take the antibiotics brought into a bacterium and pump them out of the bacterium and into the surrounding environment. The goal of this research has been to develop strategies using organic plant extracts to inhibit AcrAB-TolC efflux pumps and ultimately find a way to combat drug resistance in bacteria.

Determination of Efflux Inhibition Properties of Organic Material



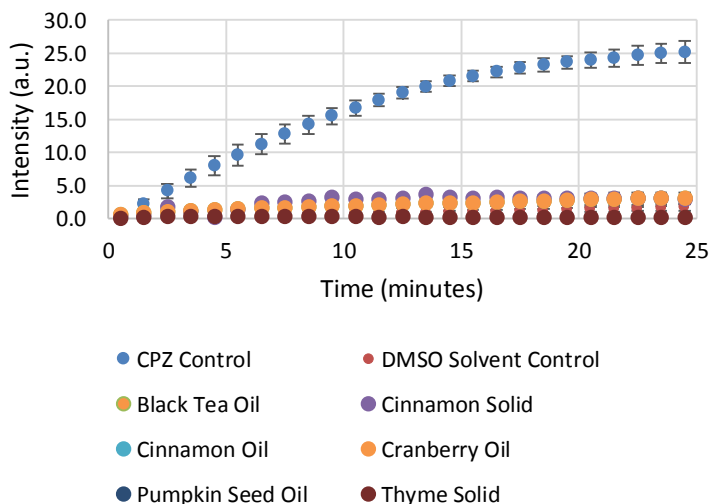
AcrAB-TolC Pump



Conclusion

Using natural products as potential efflux pump inhibitors has led to varying degrees of success. Although many organic extracts have been unable to inhibit efflux, some teas have shown promise. Future work should focus on identifying the active compounds in tea used for inhibition and using non-polar solvents to extract compounds more likely to penetrate the membrane to reach the embedded AcrAB-TolC pump.

Determination of Efflux Inhibition Properties of Organic Material



Chromatograms for Various Teas

