

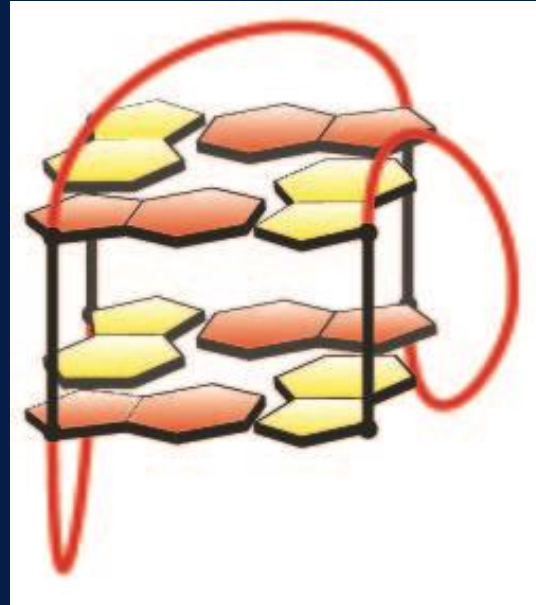
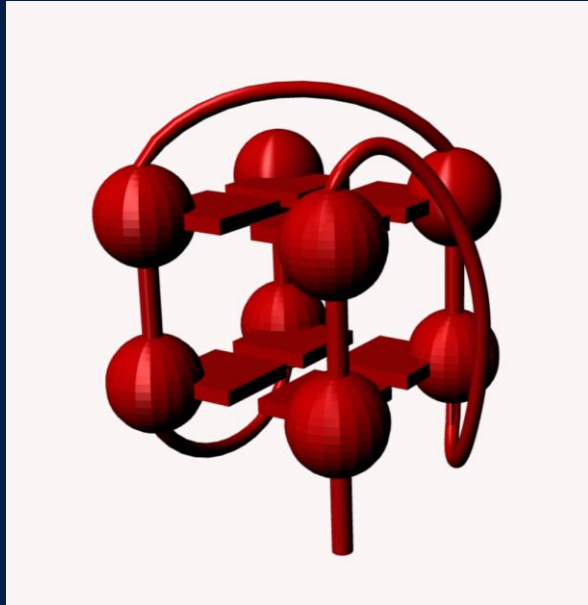
DNA Quadruplexes as Targets for Antimicrobial Gene Regulation

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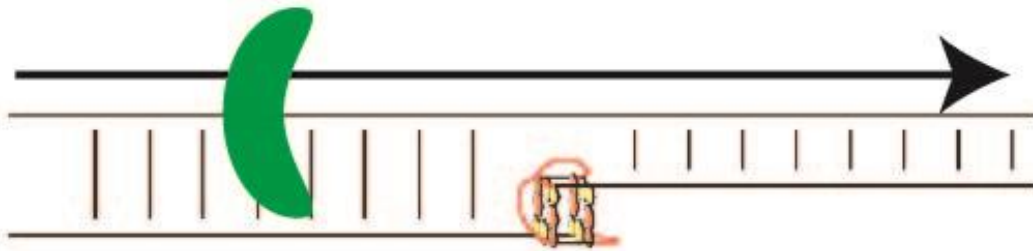
What are Quadruplexes?



- 4 Stranded DNA structures
- G-rich sequences
- Shown to have impact on gene regulation

How might they work?

1) Quadruplex formation may facilitate transcription



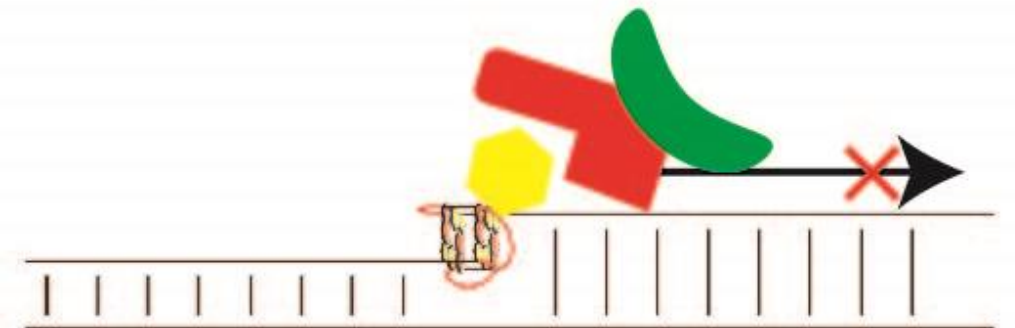
2) Quadruplex formation may allow transcription factors to bind



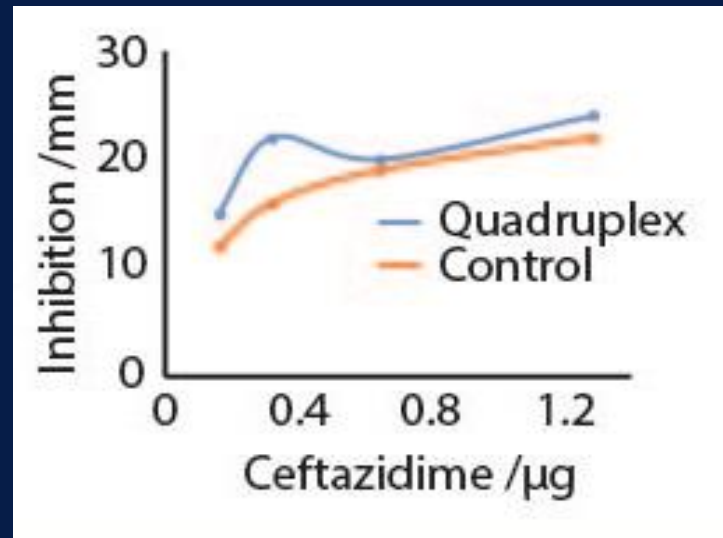
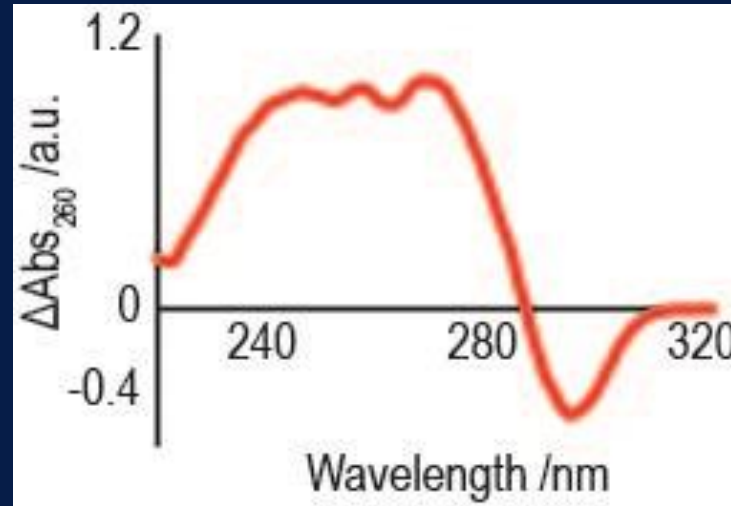
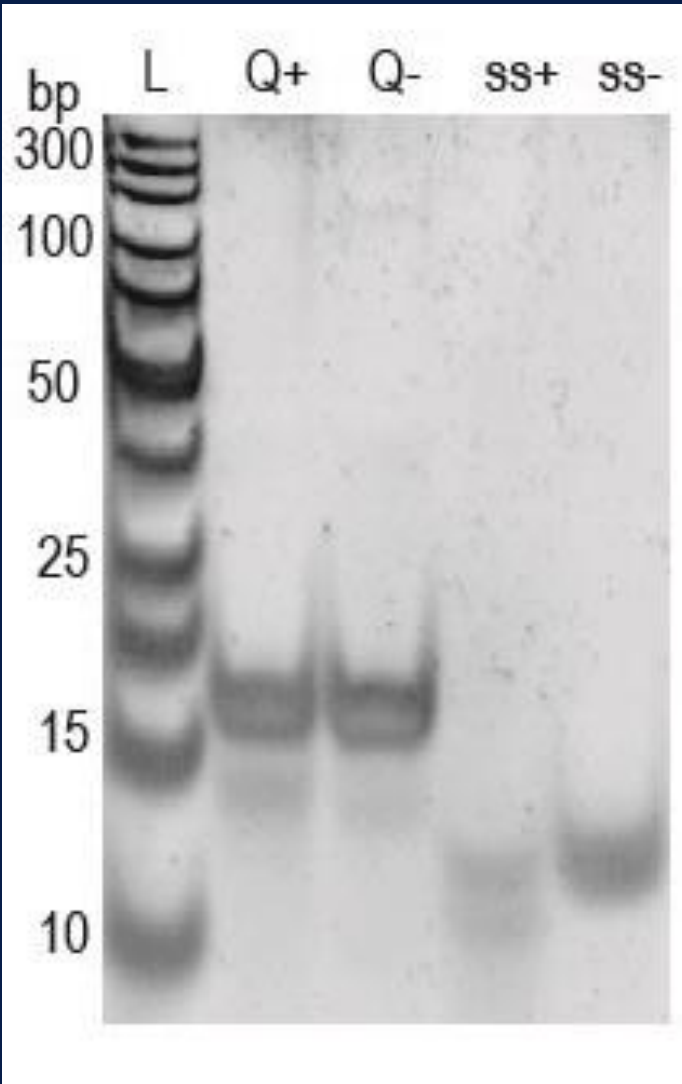
3) Quadruplex formation may prevent transcription



4) Quadruplex formation may prevent transcription factors from binding



AdeABC Efflux Pump of *A. baumannii*



- 1 G-rich sequence chosen
- Quadruplex formation demonstrated
- Results indicate decrease in resistance

Bottlenecks to Research

- Time & Money****
- Slow Process, Many Putative Targets****
- Access to Structural Analysis (NMR, CD)
- Mechanistic Determination

