

6-2018-4547 | Naturally occurring compounds for Fighting Bacterial and Fungal Infections
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Background

- Bacteria communicate and coordinate population behavior through the mechanism of quorum sensing (QS), which controls the expression of genes that affect a variety of bacterial processes.
- Cannabis, Cannabinoids and endo-cannabinoids can act as novel anti-microbial agents affecting pathogens both in planktonic and biofilm environments.
- Their effect on bacterial QS has never been investigated.

Our Innovation

A novel concept for fighting bacterial and fungal infections, accumulations and pathogenicity using synthetic cannabinoids and/or human endo-cannabinoids

Applications for use

- Practical implications against topical infections (as dermal infections), oral infections, internal bacterial/fungal infections and infections associated with indwelling procedures (as catheters).
- Enable the manipulation of bacterial properties that are of major importance in industry, agriculture and medicine.

Technology

- QS Mechanism is based on small signaling molecules, termed autoinducers (AIs), which control factors such as bioluminescence, pigment production, motility and biofilm formation, among many others.
- The QS, free-living marine bacterium *Vibrio harveyi* produces and responds to at least three distinct AIs: HAI-1, AI-2 and CAI-1. AI-2 is referred to "universal autoinducer" as it is found in numerous Gram-positive and Gram-negative bacteria.

Patent Status

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