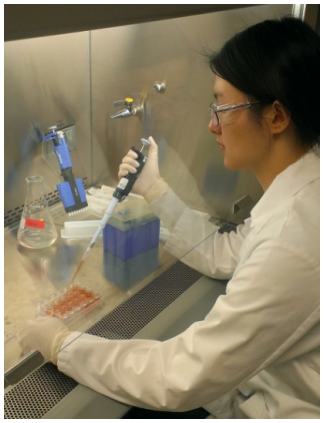
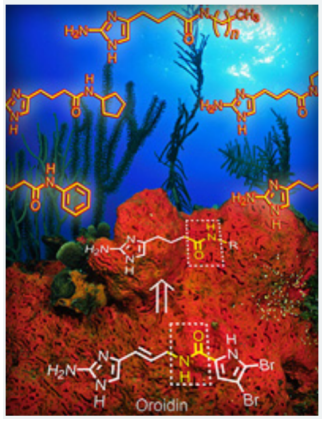
Novel Approach to Treating Lyme Disease

Overview:

Funding from the Bay Area Lyme Foundation is enabling Agile Sciences to develop a potential new treatment for Lyme Disease. Agile Sciences' proprietary technology consists of organic molecules with the ability to break up protective bacterial biofilms so that antibiotic treatments are more effective. Agile Sciences' researchers have shown that these molecules are able to disperse biofilms of *Borrelia burgdorferi*, the causative agent of Lyme disease.



Dr. Daina Zeng, Microbiologist at Agile Sciences, is seeking a more effective treatment for Lyme disease.



Agile Sciences' library of compounds are inspired by marine natural products and break up protective bacterial biofilms so that antibiotics are more effective.

***Borrelia burgdorferi*, the bacterium implicated in Lyme disease, forms protective biofilms in the absence (right well) and presence of the antibiotic doxycycline (middle well). The addition of Agilyte® disperses the *Borrelia* biofilm so that bacteria are more susceptible to antibiotic treatment (right well).**

Biofilm made of *Borrelia burgdorferi* bacteria

Biofilm treated with doxycycline

Biofilm treated with doxycycline + Agilyte®

Agile Sciences Technology:

- Novel chemical compounds derived from a natural source, the marine sponge *Agelas conifera*.
- Compounds breakup biofilms, which are aggregates of bacterial cells that render bacteria up to 10,000 times more resistant to antibiotics.
- Funding from the Bay Area Lyme Foundation has enabled the identification of a new chemical compound, Agilyte®, that can inhibit and disperse biofilms formed by *Borrelia burgdorferi*, the causative agent of Lyme disease.
- Agilyte® is able to enhance the activity of antibiotics used for Lyme disease by disrupting the protective biofilm thus allowing the antibiotic to eliminate the bacteria.

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