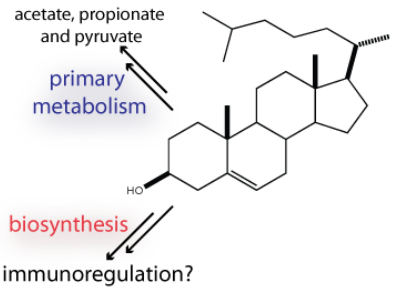
Novel Codrugs for the Treatment of Tuberculosis

Novel compounds that increases the efficacy of standard TB therapy through a unique mechanism of action for increased tolerance and decreased duration of therapy.

Background

One third of the world's population is infected with tuberculosis (TB). In 2014, there were 1.5 million TB related deaths. The current recommended treatment regimen for TB begins with a two-month intensive therapy using isoniazid, rifampicin, pyrazinamide, and ethambutol followed by four months of treatment with isoniazid and rifampicin. The long and complex treatment regimen leads to high levels of nonadherence. This contributes to the development of drug resistant TB that becomes more difficult and expensive to treat.



Sampson N. (http://mysbfiles.stonybrook.edu/~nsampson/Mtb.html)

Technology

Dr. Nicole Sampson, Professor and Chair of Chemistry and a founding member of the Institute of Chemical Biology and Drug Discovery at Stony Brook University, has identified novel compounds that decrease the MIC of isoniazid, a front-line TB drug. The drug scaffold from which these compounds were derived have high stability *in vivo*, low host toxicity, and excellent host bioavailability. These drugs will be developed as combination therapies with existing anti-TB therapeutics for both drug-sensitive and drug-resistant TB. The proposed therapy will reduce time of treatment, and consequently reduce treatment costs and improve treatment outcomes.

Patent Application/Publication:
US 8,481,530 B2 and provisional

Advantages

- **Treats both drug-sensitive and drug-resistant TB**
- **Increases efficacy of standard of care TB treatment**

Applications

- **Tuberculosis**
- **Therapeutics**

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