



TECHNOLOGY

Novel Compounds for Anti-Giardiasis and Anti-Amoebiasis Treatment

OVERVIEW

Background

Amoebiasis and Giardiasis are enteric diseases caused by protozoan parasites, *Entamoeba histolytica* and *Giardia lamblia* respectively. Symptoms include diarrhea and severe loss of absorption of nutrients. Current frontline treatments, nitroimidazoles and thiazolides, are plagued not only by side effects but also increased likelihood for the organisms to develop drug-resistance. Global incidence of these diseases can range between ~5-42% of the population depending on geographical location. Disease transmission occurs mainly through contaminated water. Developing countries are more at risk relative to developed nations due to poor access to clean drinking water. Development of newer class of drugs to combat these diseases requires overcoming the side-effects of current drugs, along with addressing toxicity concerns and improved bioavailability.

Innovative Technology

Researchers at the University of Maryland, have developed novel derivatives of a natural molecule derived from a fungus. These derivatives are tested for potency against various forms of the pathogen life cycle and biochemical activity against known enzyme targets. These molecules are modified such that they will not be absorbed across the gastrointestinal epithelium, thereby increasing the bioavailability and serving as novel treatment options against giardiasis and amoebiasis.

Advantages

- Improved potency against both pathogens- *Entamoeba histolytica* and *Giardia lamblia*
- Enhanced safety and stability during storage
- Improved bioavailability due to minimal absorption across gastrointestinal epithelium

Applications

- Newer treatment options against giardiasis and amoebiasis

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Additional Information

INSTITUTION

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PATENT STATUS

Pending

EXTERNAL RESOURCES

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