

New plant-based drug could provide treatment for two deadly tropical diseases

5 July 2018, by Julia Short

Derived from nature, a potential new drug to treat two life-threatening tropical diseases has been discovered as a result of collaboration between two Welsh universities.

The team of researchers, led by Professor Andrew Westwell from Cardiff University, has successfully created a drug compound, from the goji berry plant, that is active against the parasites that cause [schistosomiasis](#) and fascioliasis.

Although not widely known, schistosomiasis is the most devastating human parasitic [disease](#) after malaria, with approximately 600 million people currently affected, and causing approximately 300,000 deaths per year. Likewise, 17 million people are currently infected with fascioliasis, with figures set to increase.

Schistosomiasis is caused by a waterborne parasite, while fascioliasis is caused by a foodborne parasite. Both of these neglected diseases are treated with a single drug, which is widely administered to the population where these diseases are most prevalent. However, this type of single treatment often leads to drug resistance, which is now the case for many people at risk of contracting these diseases.

As a result, a team of researchers at Cardiff University joined forces with Aberystwyth University's Institute of Biological, Environmental and Rural Sciences, led by Professor Karl Hoffmann, in a collaboration to find a new drug treatment.

Speaking of the research, Professor Westwell from Cardiff University's School of Pharmacy and Pharmaceutical Sciences, said: "Discovering a potential new treatment for two such prevalent diseases is an exciting find and we hope that this research will lead to major health benefits for some of the world's poorest people who are at risk of contracting schistosomiasis and fascioliasis."

Funded by the Welsh Government's Life Science Research Network of Wales, the [drug](#) design was carried out at Cardiff University's School of Pharmacy and Pharmaceutical Sciences and the testing of its effectiveness has taken place at Aberystwyth University.

The research "Design, synthesis and anthelmintic activity of 7-keto-sempervirol analogues" is published in the *European Journal of Medical Chemistry*.

More information: Alessandra Crusco et al. Design, synthesis and anthelmintic activity of 7-keto-sempervirol analogues, *European Journal of Medicinal Chemistry* (2018). [DOI: 10.1016/j.ejmech.2018.04.032](#)

Provided by Cardiff University

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