

# Discovery leads to development of new drug for inflammatory diseases

September 1 2017, by Julia Short

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A lipid (fat) whose anti-inflammatory activities were discovered by Cardiff University, with colleagues from Universities of Pittsburgh, Oregon and Michigan, is being developed into a new drug for the treatment of diseases that currently have limited therapeutic options.

Detailed study of the lipid by the groups of Professor Valerie O'Donnell (Cardiff University) and Bruce Freeman (University of Pittsburgh) found it could dampen down inflammation in circulating blood cells, making it an excellent candidate for development into a drug for several inflammatory diseases.

Now under license to the biopharmaceutical company Complexa, the new drug - CXA-10 - has just received \$62M of funding to enter phase 2 clinical trials where it will be tested on patients with FSGS (a rare disease that attacks the kidneys) and [pulmonary arterial hypertension](#) (a progressive disease caused by narrowing or tightening of the pulmonary arteries).

Professor Valerie O'Donnell, Co-Director of Systems Immunity Research Institute at Cardiff University, said: "The discovery that this lipid has potent anti-inflammatory activity is now being used to develop therapies that could significantly improve the lives of people with life-threatening diseases."

Josh Tarnoff, President and Chief Executive Officer of Complexa, added: "CXA-10 has already demonstrated disease-modifying effects in

preclinical tests and has great potential to do the same in inflammatory conditions such as FSGS and PAH, in which many patients fail to respond to existing treatment options."

FSGS is a [rare disease](#) that leads to scarring in the kidney, reducing kidney function and causing the majority of sufferers to develop end-stage renal disease. Once dialysis is required, the [average life expectancy](#) is only eight years. There are currently no approved [therapeutic options](#) for FSGS patients, who often endure long courses of high-dose steroids without responding. CXA-10 is being investigated as a steroid-sparing agent in recently diagnosed patients.

Pulmonary arterial hypertension is caused by changes to the [pulmonary arteries](#) - the blood vessels that carry blood from the heart to the lungs. The walls of the arteries become thick and stiff, narrowing the space for blood to pass through and increasing blood pressure. The disease leads to exercise intolerance, breathlessness and heart failure. In the UK, around 6,000-7,000 people have [pulmonary hypertension](#). It's thought that more people have the condition and haven't been diagnosed.

Provided by Cardiff University

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