

First lupus breakthrough in 50 years

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Professor Fabienne Mackay, Head of the Department of Immunology at Monash University

(Medical Xpress) -- A Monash researcher has played a crucial role in the first major lupus treatment breakthrough for over 50 years.

Professor Fabienne Mackay Head of the Department of [Immunology](#) at Monash University, discovered a new factor in the development of the disease, something known as BAFF - B cell Activating Factor.

It has led directly to the development of a medication called Benlysta, which was approved by the US Food and Drug Authority for release last month.

Professor Mackay explains that B [cells](#) make [antibodies](#) for invaders such as [bacteria](#) and other foreign bodies, like pollen.

“BAFF helps B cells survive, which is a good thing. But if there is too much BAFF, then there can be an overproduction of B cells and they hang about for longer than they should - in particular [B cells](#) that are normally meant to die because they are harmful. Autoimmunity will be initiated, and this is how the immune system ends up attacking the body’s own cells,” Professor Mackay said.

Lupus is an autoimmune inflammatory disease affecting about five million people worldwide. An autoimmune problem is one where the body’s immune system attacks the body itself. In the case of lupus, the [immune system](#) attacks connective tissue in the joints, lungs, kidneys and heart, causing joint and skin diseases in most patients, and organ and blood disorders in about half of lupus sufferers.

Professor Mackay was the first to show that the overproduction of BAFF was driving lupus. In a follow up study, elevated levels of BAFF were discovered in patients with a number of autoimmune diseases including lupus, rheumatoid arthritis and Sjögren’s syndrome.

She said this was an exciting discovery as it implied that if BAFF production can be blocked, the entire cascade effect that resulted in autoimmune disease could be prevented.

Manufacturers of the drug, GlaxoSmithKline designed their clinical trials in line with the insights from Professor Mackay’s experimental data.

Professor Mackay says that one of the reasons for her interest in lupus is its affect on the Indigenous Australian population. Aboriginal Australians suffers from [lupus](#) at a rate double that of the non-Aboriginal population.

“I am very pleased to have created the platform of knowledge from

which effective therapies can springboard. In particular, I have long been concerned about the higher incidence of this disease and associated morbidity within Indigenous Australians populations and the limited arsenal of therapies, many very toxic, and it is wonderful news that a medication has been developed which may be able to help them.”

Provided by Monash University

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