

# A New Player In The Area Of Anti-inflammatory Therapeutics: Biotech Startup Inflazome To Tackle The Problem

Sept. 23, 2016 by Andrii Buvailo

Understanding and controlling inflammation processes has become a central goal in modern medical research. A number of companies developing novel anti-inflammatory drugs has emerged to grow on the wave of recent research findings.

## Inflammation: Good or Evil?

For centuries, scientists have debated whether inflammation is good or bad for our health. The current understanding is that it's actually both. If it is too little, then microbes quickly spread throughout the body causing severe consequences, or wounds won't heal; too much - and surrounding healthy tissue can be degraded or destroyed. The fire of inflammation must be under a tough control in all instances, which is not always the case.

Recently, it was found that inflammation can simmer within the body, in the absence of overt trauma or infection, without obvious symptoms. Researchers found a link between smouldering inflammation and heart attacks, diabetes, Alzheimer's disease and other devastating health problems.

## How does it work?

Inflammation is a protective mechanism of the body to defend itself against microbes or to heal damaged tissue. The walls of the capillaries dilate and become more porous, enabling a flood of white blood cells to reach a damaged area. As blood flows in and fluid leaks out, the impacted area swells putting pressure on nearby nerves and causing pain; inflammatory molecules may also activate pain fibres.

In inflammation, the primary role is played by macrophages - white blood cells, a powerful tooling of our immune system. For quite a long time, macrophages have been regarded as humble agents of the immune system recognizing and gobbling microbes or debris.

In recent years, however, researchers have found that macrophages are able to get assembled into specialized aggregates pumping out dozens of molecules that promote inflammation. These aggregates

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are called **inflammasomes** and they are dynamically assembled when they are needed and as quickly dismantled - when the danger passes. Inflammasomes have become a “hot” therapeutic target for emerging companies developing novel anti-inflammatory drugs.

## **Irish Startup Comes Into View**

Dublin biotech startup Inflazome has just raised \$17 M in Series A funding from Novartis Venture Fund and Ireland-based Fountain Healthcare Partners to realize bold plans on development of inflammasome inhibitors in hopes to finding treatments for a number of chronic inflammatory diseases.

The company develops small-molecule oral drugs that block inflammasomes in a precise manner. Selectively targeting the inflammasome has the potential to stop harmful inflammation without suppressing “beneficial” inflammation and with minimum side effects.