

Dermatology

Thrombin Inhibitor as Novel Oral Treatment for Atopic Dermatitis

Brief Description of Technology

A newly established link between the mechanistic role of thrombin and fibrinogen and their contribution to AD provides a novel mechanism for oral treatment.

TECHNOLOGY ID

2020-1001

BUSINESS OPPORTUNITY

Exclusive License or Sponsored Research

TECHNOLOGY TYPE

Small Molecule

PATENT INFORMATION

Provisional Filed

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Technology Overview

Atopic Dermatitis (AD) is a chronic skin inflammatory condition that affects both children and adults. There are currently no curative or oral treatments for AD. To identify novel therapeutic targets, researchers used pediatric clinical samples to determine that thrombin generation was mechanistically associated with moderate-to-severe AD. Further, inhibition of thrombin via a direct small molecule thrombin inhibitor, dabigatran, significantly attenuated disease development in a murine AD model. Fibrinogen, a major thrombin substrate, deficient mice also showed a significant decrease in disease severity. The combined human and murine findings highly suggest a key mechanistic role for thrombin and fibrinogen and their contribution to AD in children. Oral small molecule inhibitors of thrombin, like dabigatran, are a promising advance in the treatment of AD.

Applications

- Oral treatment for the reduction of atopic dermatitis

Advantages

- Oral small molecule treatment
- Novel mechanism

Market Overview

Atopic Dermatitis impacts approximately one in ten children worldwide with numbers in industrialized nations on the rise. GlobalData estimates that sales of drugs in the AD market were approximately \$6.4B in 2020 in the seven major markets. The US was the largest market, with approximately \$5.0B in drug sales, which represented 77.8% of the total AD market. Global sales in the AD market are expected to grow to \$16.7B by 2030, at a Compound Annual Growth Rate (CAGR) of 10.1% from 2020– 2030.

Investigator Overview

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