

Compounds for the development of novel anti-asthmatic therapies and infectious diseases

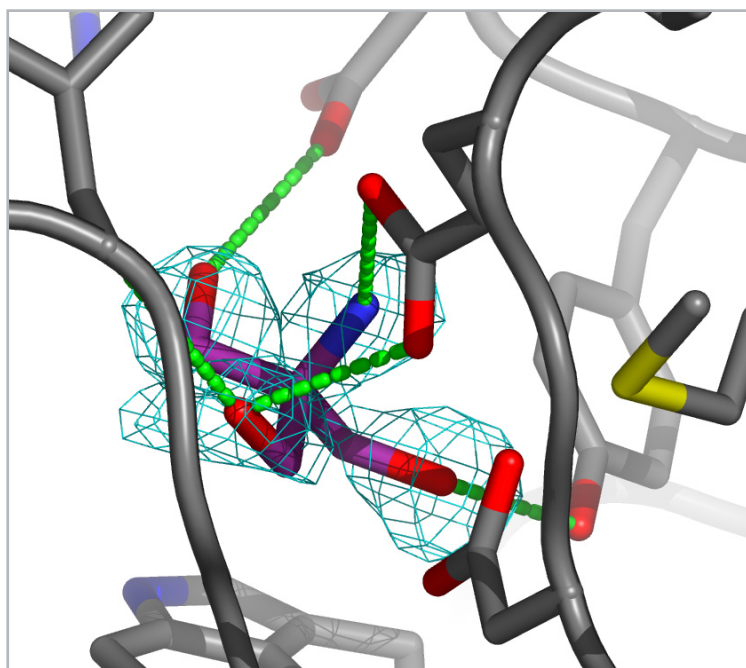


Figure: Structure of chitinase active site in complex with an inhibitor

Researchers at the University of Dundee have identified a number of compounds that inhibit family 18 chitinases. Specific potent inhibitors would be of considerable interest for the development of novel therapeutics with fungicidal, insecticidal or anti-inflammatory potential. Natural inhibitors are already known but none are suitable as drug leads.

Background

Family 18 Chitinases are validated targets against various pathogens and are thought to be a target for lung inflammation. The potential of this discovery is demonstrated by a recent study which has shown that inhibition of a mammalian chitinase associated with parasitic infections reduces recruitment of inflammatory cells in a murine model of inflammation suggesting the enzyme may be a potential target for an asthma drug.

New advances

These compounds are small and drug like and co-crystallisation of these putative lead compounds with the target enzyme have proved useful in designing novel chemical entities.

Data is available to demonstrate inhibition of family 18 chitinase from *Aspergillus fumigatus* (chitinase B1) using a fluorogenic substrate. Inhibition of human chitotriosidase and acid mammalian chitotriosidases has also been demonstrated.

Commercial opportunity

A patent application protecting the compounds that have been identified is currently being drafted. The research group at the University of Dundee has expertise in the biochemistry of chitinases and structural studies of target-inhibitor complexes. A suitable partner is sought to further develop the compounds. Disease model systems are also available to investigate the effects of novel compounds.
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Patent Pending - GB2006 / 002277

- Compounds for asthma
- Compounds for infectious disease
- Drug like
- Yeast and mammalian cell data available
- Disease models available
- Crystallography data available
- Patent pending
- Further info under CA

For more information contact:

Diane Taylor
Director
Tel: +44 (0) 1382 384426
Fax: +44 (0) 1382 386765
Email: research@dundee.ac.uk

Research and Innovation Services
University of Dundee
11 Perth Road, Dundee, DD1 4HN
Scotland, UK

Tel: +44 (0)1382 384426
Fax: +44 (0)1382 386765

Email: research@dundee.ac.uk
Web: www.dundee.ac.uk/research/