

Complement C5 inhibitor



Available to license: A novel polypeptide isolated from tick saliva that inhibits complement C5, a proven therapeutic target

Researchers at Oxford have identified and applied for a patent in respect of a novel tick-derived polypeptide inhibitor of complement C5, a proven therapeutic target for a number of complement-mediated diseases.

In recent years the involvement of the complement system in a range of human diseases has been elucidated and the first drugs that inhibit specific parts of the complement cascade have reached the market, with a number of others undergoing clinical development.

Prominent amongst the marketed complement inhibitors is Alexion Pharmaceuticals' Soliris® (eculizumab), an anti-complement C5 monoclonal antibody that is registered for the treatment of paroxysmal nocturnal hemoglobinuria (PNH) and atypical haemolytic uremic syndrome, and which recorded net product sales of over US\$2.6bn in 2015.

This and other complement inhibitors are currently being investigated clinically in the treatment of conditions including age-related macular degeneration, chronic obstructive pulmonary disease, myasthenia gravis, graft-versus-host disease, delayed graft function, and neuromyelitis optica spectrum disorder, and many other potential therapeutic applications have also been identified.

A new approach

Researchers at Oxford have identified a novel polypeptide inhibitor of complement C5 that is contained in the saliva of a certain species of tick. The polypeptide is around 90 residues long, is readily soluble and is chemically and proteolytically stable. The polypeptide is the subject of a UK priority patent application that includes composition-of-matter claims.

Tick-derived polypeptide C5 inhibitors have attracted significant research interest and one, Akari Therapeutics' Coversin, has displayed positive preliminary results in an ongoing clinical trial investigating its use in the treatment of PNH in eculizumab-resistant patients.

Licensing opportunity

Oxford University Innovation is now seeking a commercial partner to develop further and bring to market this new C5 inhibitor under an appropriate licence agreement.



For further information please contact:

Dr Bob Fishleigh

bob.fishleigh@innovation.ox.ac.uk

+44 (0)1865 614429

www.innovation.ox.ac.uk

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Technology Transfer from the University of Oxford

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