

Allosteric Antidepressants

University of Aarhus
and
Central Jutland Region

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Technical Field

Biotechnology

Business opportunity

Investment

Research collaboration

Licensing opportunity

Current state of technology

The technology has been granted 71,000 € from the National Proof-of-Concept Fond. Extended In vivo data has been obtained.

Applications

New allosteric mechanism of action in relation to treatment of depression. Extended efficacy of current commercial available drugs. Holds potential for combination treatment.

Commercial Value

An estimate of 17% of the world population will experience the mental anguish of a clinical depression at least once in a lifetime and WHO has estimated that in the coming two decades depression will be among the two most expensive illnesses for society. The prevalence of depression is forecast to increase across each of the seven major markets, complementing trends established over the past 15 years. An incidence of 6.10% in year 2013 at the seven largest markets has been calculated.

SSRI and SNRI with selective effects on serotonin/norepinephrine re-uptake are first choice treatments due to reduced side-effects. Though generic competition SSRI market still holds an overall attractive market position. SSRI and SNRI products holds a forecast of \$ 18M in year 2013 ^(a).

The Technology

Currently two major problems concerning depression standard treatment can be identified:

- 1) Lack of efficiency – as 30% of all patients will develop resistance towards available drug treatment.
- 2) Lag time of 4- 8 weeks for treatment response which may result in increased suicidal risk.

This technology presents a new drug candidate allowing potential extended efficacy for treatment of clinical depression. Most drugs for treatment of depression has one effective target site. However, market leading SSRI drug Cipralelex/Lexapro holds the benefit of having an additional target site. Yet, drug affinity of the allosteric site 2 is limited. The new drug candidate, which we here presents, holds a specific affinity for allosteric site 2. Potentially this allow a new mechanism of action in the treatment of clinical depression. An in vivo rat model setup with drug combination treatment has shown an extend drug efficiency and reduction of treatment response time. Also, this finding holds treatment potential for patients with resistance towards current standard drugs.

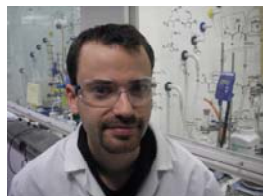
Intellectual Property Rights

The Intellectual Property Rights are owned by the University of Aarhus and Central Jutland Region. Priority date is obtained January 2006. Patent application has entered National stage with in Europe (EP 0770015.1) and US (US 12/281,772).

Inventors



Associate Professor, Ove Wiborg.
Head of Lab of Molecular Neurobiology, Aarhus Psychiatric University Hospital. His group work in particular with stress models for depression, antidepressant effects and the serotonin transport complex. Inventor, Post.Doc Henrik Amtoft Neubauer is part of the Wiborg research group.



Assistant Professor, Henrik Helligsoe Jensen, Ph.D. in bioorganic chemistry from University of Aarhus. Has worked one year at Imperial College and two years at University of Oxford. Has specialized in synthesis of biological substances.

References

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Contactperson:



AARHUS UNIVERSITET

Kristine Kjer Hansen
University of Aarhus
Phone: + 45 8942 6864
E-mail: kkh@adm.au.dk