

Anthrotainin as an antibiotic to combat multiresistant bacteria

Antibiotic resistance is one of the biggest threats to global health, food security, and development today, which can affect anyone, of any age, in any country. A growing number of infections are becoming harder to treat as the antibiotics used to treat them become less effective. The world urgently needs new antibiotics, which are able to combat the threat of antimicrobial resistance.

BACKGROUND

Bacteria are exceptionally adaptable organisms and have repeatedly proven their ability to resist antibiotic agents.

As an example, the use of tetracyclines for the treatment of animal and human infections has been increasing in recent years. However, this has led to the emergence of tetracycline-resistant bacteria limiting the use of tetracycline-antibiotics. With the increasingly rapid appearance and global spread of antibiotic-resistant bacteria, prevention of infections with appropriately targeted drug assumes greater urgency and importance. The provision of novel compounds with anti-prokaryotic activity is therefore one of the most acute issues of modern chemical biology, biotechnology, and medicine.

TECHNOLOGY

Anthrotainin is a new antibiotic agent for targeting antibiotic resistant prokaryotes, (archaea and gram-positive or gram-negative bacteria).

Anthrotainin has antibacterial activity against the most important resistances, including tetracycline-resistant prokaryotes.

Anthrotainin had been successfully isolated from filamentous fungus, *Metapochonia lutea*

(Ascomycota, Hypocreales, Clavicipitaceae).

The invention refers to a pharmaceutical preparation or feed supplement comprising anthrotainin, specifically from *Metapochonia lutea*, and the use or anthrotainin in the treatment of a disease condition in a subject which suffers from or is going to suffer from an infection caused by prokaryotes.



Figure: Isolation plate from a Danube river sample; Arrow indicates *Metapochonia lutea*.

ADVANTAGES

- Able to combat antibiotic resistant isolates from a number of different bacteria
- Isolated from filamentous fungus
- Can be produced in large quantity
- Low cytotoxicity

REFERENCE:

EM202201/ EM132

AVAILABLE FOR:

- License agreement
- R&D cooperation
- Patent purchase

APPLICATIONS:

Immunotherapy and vaccine development

KEYWORDS:

Anthrotainin, Antibiotics, Resistance, Tetracycline

DEVELOPMENT STATUS:

Proof of concept

IPR:

EP prio

INVENTORS:

Joseph STRAUSS
Martin WAGNER
Roman LABUDA
Markus BACHER
Christoph SCHÜLLER
Thomas ROSENAU
Kathrin KOBER-RYCHLI
Maria DOPPLER
Hannes GRATZL
Rainer SCHUMACHER
Christian PUHR

CONTACT:

Verena Hönninger

Research Support, Innovation & Technology Transfer
Vienna, Austria

T: +43 1 47654 33035

verena.hoenninger@boku.ac.at