

## NEW VANCOMYCIN CONJUGATES IN ANTIMICROBIAL THERAPY

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### Commercialization opportunities



- ➔ Licensing agreement
- ➔ Transfer of ownership
- ➔ Partnership for further research and commercialization

### IP Status



The invention has been submitted to the Polish Patent Office, patent application no. P.428782

### Implementation progress



TRL 4  
Technology validated  
in laboratory conditions

The proposed technology is new conjugates of vancomycin (Van) and transportan 10 (TP10) and their antibacterial use. Vancomycin is an antibiotic with antimicrobial activity on Gram (+) aerobic and anaerobic bacteria. It is often used to treatment of infections caused by *Staphylococcus aureus*, *Enterococcus* spp. and *Clostridium difficile*. These infections often occur in people after a long hospital stay, chronic illness and a long period of antibiotic use. Infections located in the brain tissue, such as bacterial meningitis, are particularly dangerous. The effectiveness of vancomycin is insufficient due to the still increasing amount of multi-drug resistant strains of hospital bacteria. Currently, there are no alternative antibiotics to vancomycin on the market. Therefore, there is a need for creation of antibiotic with better antibacterial effectiveness and penetrating the brain tissue well. These properties were achieved by conjugating vancomycin with transportan 10 (TP10), which has antibacterial activity and the ability to transport drugs into the cell. The creation of Van-TP10 conjugates improved pharmacokinetic and pharmacodynamic properties comparing to vancomycin alone, while maintaining low cell toxicity. Van-TP10 conjugates show better antibacterial effects and low toxicity against the clinical methicillin resistant *Staphylococcus aureus* (MRSA) strains. New conjugates may be helpful in treating life-threatening infections, especially those found in the brain, and therefore can be used as medicines in the pharmaceutical industry as an alternative to traditional vancomycin.

### Technology Transfer Office



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