

New bactericidal enzyme solution could help the fight against MRSA infection

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Scientists have developed an endolytic enzyme called Staphitekt, which has been found to kill meticillin-resistant *Staphylococcus aureus* (pictured)

An enzyme that kills meticillin-resistant *Staphylococcus aureus* (MRSA) has been developed by Dutch biotech company Microcos.

Staphitekt is not a conventional antibiotic but an endolytic enzyme that, like those formed by bacteriophages, breaks down bacterial cell walls.

Bacteriophages are viruses that infect the particular host bacteria on which they depend in order to proliferate. After infection and replication, they produce endolysins, which target bacterial cell walls from within, causing the cell to burst and die. Staphitekt has a similar mode of action except that it attacks the bacterial cell wall from the outside.

Because its mechanism of action is unrelated to that of antibiotics, organisms that are resistant to conventional antibiotics are susceptible to Staphitekt.

Results presented at a EuroSciCon meeting in London on 5 November 2014 suggest that Staphitekt is unlikely to result in resistance because it targets an area of the bacterium wall that is less susceptible to mutation. Also, since it acts specifically against *S aureus*, beneficial bacteria are not affected.

The product is the first endolytic enzyme available for human use and must only be applied to intact skin. The product is available in single use containers of 30ml solution at a cost of €69.50.