**Study could help superbug battle**

**Targeting a toxin released by virtually all strains of MRSA could help scientists develop new drugs that can fight the superbug.**

A University-led study discovered a toxin - SElX - which leads the body’s immune system to go into overdrive and damage healthy cells.

The toxin SElX is made by 95 per cent of Staphylococcus aureus bacteria, including MRSA strains linked with hospital-acquired infections.

**Toxin**

When it is released it triggers an over multiplication of immune cells.

This can lead to high fever, toxic shock and potentially fatal lung infections.

The study from the University's Roslin Institute will help research to find drugs that could target SElX and prevent damage to healthy cells

MRSA continues to be a global problem.

This research could help us find a new way to target the infection.

**Gill Wilson**

***Roslin Institute***

**MRSA**

The research looked at a strain of MRSA, known as USA300, that can cause severe infections in otherwise healthy individuals.

MRSA strains are known to produce different types of toxins but scientists found that SElX is made by virtually all strains of the superbug.

It belongs to a family of toxins known as superantigens, which can invoke an extreme immune response.

If we can find ways to target this toxin, we can stop it from triggering an over-reaction of the body’s immune system and prevent severe infections.

**Dr Ross Fitzgerald**

***The Roslin Institute***

The research is published in the journal PLoS Pathogens.

It was carried out in collaboration with the Universities of Edinburgh, Iowa and Mississippi State

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