HIV Med Selzentry (Maraviroc) Found to Fight Staph Infection

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The HIV antiretroviral Selzentry (maraviroc) combats the potentially lethal pathogen Staphylococcus aureus, the bacterium that causes staph infections, according to research from the New York University School of Medicine, redOrbit reports. Staph infections, which are the cause of hundreds of thousands of hospital admissions each year in the United States, are increasingly antibiotic-resistant. Publishing their findings in the journal Nature, the researchers discovered that a toxin called LukED that the bacterium excretes latches onto the same CCR5 coreceptor on the CD4 cell that HIV typically uses in order to gain entry. LukED then pierces holes through the CD4's membrane, killing the cell.

Because Selzentry blocks the ability of the toxin to latch onto the CCR5's coreceptor, it has the potential to thwart staph's assault on the immune system. When the researchers treated CD4 cells with the antiretroviral in a laboratory setting, the drug totally blocked the toxic effects of LukED, which comes from a family known as leukotoxins. Researchers then examined the effects of CCR5 coreceptor inhibition in mice. Nearly all mice exposed to staph containing LukED died, while all those mice the scientists had genetically engineered to lack the CCR5 coreceptor survived the infection.

"The goal in blocking the toxin with maraviroc or similar agents is to give the upper hand to the immune system to better control the [staph] infection," lead researcher Victor J. Torres, PhD, assistant professor of microbiology at NYU School of Medicine, said in a release.

The scientists hope the research will advance to human clinical trials.

To read the study abstract, click here.

For the redOrbit story, click here.

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http://beta.docker.poz.com/article/Maraviroc-Staph-23346-4283