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PolyU develops new class of antibiotic candidates against superbugs

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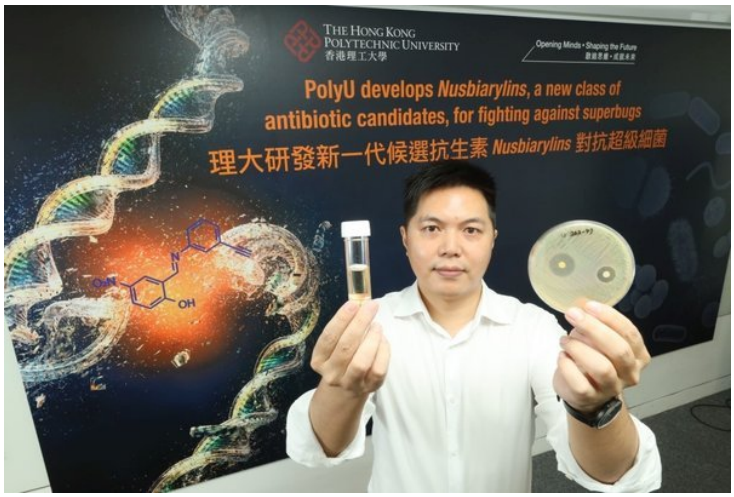

The Hong Kong Polytechnic University (PolyU) has developed a new class of antibiotic drug candidates which has high potential to be developed into a new generation of antibiotics fighting against multi-drug resistant superbugs including methicillin-resistant *Staphylococcus aureus* (MRSA).

The novel small molecules, based on new target, new chemical structure and new antimicrobial mechanism, are different from those of existing antibiotics. The new drug candidates demonstrate much effective abilities of inhibiting bacterial growth than commonly used antibiotics, yet with no toxicity to human cells.

The development of "Nusbiarylins", a new class of antimicrobial agents, by the research team of the State Key Laboratory of Chemical Biology and Drug Discovery of PolyU's Department of Applied Biology and Chemical Technology (ABCT), is thus a breakthrough in the battle against multi-drug resistant bacterial infections. The interdisciplinary team, led by Dr MA Cong, Assistant Professor in ABCT, comprises of experts from both PolyU and Faculty of Medicine of TheChinese University of Hong Kong.

Further pre-clinical studies on the *in vitro* pharmacological properties of Nusbiarylins on human cells indicated that the compounds:

- leading to nearly no hemolysis (i.e. human blood cell breaking), an indication of being safe for injection; and
- with excellent result in intestine absorption, implying being effective for oral taking.