



Stop AMR

Global Media Monitor

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For more information, visit: <https://www.stopamr.eu/>

Infection test kit detects bacteria and advises on antibiotics

A new single-use device has been developed to detect and attest the efficiency of antibiotics. It is a multiple layer system, the first layer contains four different common antibiotics, the second one is an absorbent paper and the third one a growth-promoting gel in a sealed bag.

A patient's biofluid sample is collected and applied to the absorbent paper. If the presence of harmful bacteria is confirmed, the multiples colonies will appear like blue spot. While growing and colonizing by absorption the top layer, bacteria will start to interact with the antibiotics. The presence or absence of clear spot around the wells could help the doctors to quickly establish if bacteria are responsible for an infection and the efficiency of the antibiotics. This could prevent unnecessary antibiotic prescription and sustain the international efforts against the AMR

Source: [New Atlas](#), 25 February 2020

Study finds key mechanism for how typhoid bacteria infects

Researchers at the Cornell University published a study on the Salmonella bacteria, responsible of the typhoid fever. *Salmonella enterica serovar Typhi*, annually infects up to 21 million people worldwide. The most sensitive areas are the one with poor health conditions and unsafe access to food and water.

One of the toxins secreted by the bacteria appears to play a key role in the host's infection. This toxin is a complex of three subunits proteins. Two of them, called "A" subunits inhibit the immune responses once entered in the host cell. The third subunit, the subunit "B", helps the complex to enter the host cell. The subunit B recognize a specific element of the membrane of immune cells, a specific type of tri-saccharide. This research opens the possibility to develop molecules

inhibiting the capability of the subunit to recognize this trisaccharide. If a molecule is developed to inhibit the ability of this subunit, the bacteria would potentially lose a lot of its infection potential. A drug like this could play a curative and preventive role.

Source: [EurekAlert!](#), 25 February 2020

Acid suppressants tied to colonization with resistant bacteria

A new study has associated the prescribed gastric acid suppressants to an increased chance of multidrug-resistant organisms (MDR) colonization in the guts. Researchers proposed different hypothesis on why it could increase the risk.

The first possible explanation is that due to a reduced acidity, MDR might survive in the stomach and migrate into the intestinal tract. The second one could be that the medication itself alter the microbiota composition, promoting indirectly the growth of MDR's populations. The last one is that bacteria strains contains amino-acid substitution inducing resistance to gastric acid.

Researchers suggest that, in view of the results, acid suppressors should be prescribed only when necessary. The reduction of prescription could sustain the infection control and the antibiotic stewardship effort.

Source: [CIDRAP](#), 27 February 2020

Study reveals how drug meant for Ebola may also work against coronaviruses

Remdesivir, a drug developed as a response to the Ebola outbreak in 2014 has been demonstrated to be efficient against Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). A study explored the reasons behind that fact. It appears that remdesivir mimics an essential component for the genome replication of the virus. While trying to replicate itself, the virus uses sometimes

remdesivir instead of the natural one. Once the virus incorporates the remdesivir instead of the natural block, it is unable to replicate itself.

As the COVID-19 is close to SARS, there is a high level of chance that the result remains the same.

Source: [EurekAlert!](#), 27 February 2020

Abnormal growth of bacterial cells could be linked to anti-microbial resistance

While studying the genome of Escherichia coli, scientists from the University of Surrey have identified mutations that could explain a specific form of AMR, called “persistence”.

The cells named ‘persisters’ are a tiny fraction of the cells presents in all bacterial infections. They are well known to resist to antibiotics and may be responsible of reinfection after an antibiotic treatment. It appears that they are like usual cells experiencing a memory loss. As they forgot how to grow normally, they are smaller than the usual bacteria population and grows slower while at the same time more resistant to antibiotics.

While approaching E.Coli, they have discovered that a mutation in the gene ydcl increases the production of such persisting cells.

This discovery is a breakthrough in the fight against AMR as “The more we know about what makes these clinically relevant persisters different, the higher our chances of developing new techniques to tackle AMR” says an author of the discovery.

Source: [EurekAlert!](#), 27 February 2020

Scientists map African Swine Fever virus genome

Researchers from the University College of London, the Pirbright Institute and the University of Warsaw recently published the genome map of the African Swine Fever Virus (ASFV).

According to the researchers, this publication could be a breakthrough toward the development of vaccines and other antiviral drugs. To achieve this objective, they used next generation sequencing tools and created the first complete genetic roadmap, “which reveals the order that different sets of ASFV genes are turned on throughout its infection cycle”. Regarding the high number of genes expressed in the ASFV

(150 – 190), this discovery helps to reduce the number of genes used at a precise infection period.

Source: [Pig Progress](#), 25 February 2020

CARB-X funds Peptilogs to develop a new class of antibiotics to treat serious superbug infections associated with implants

CARB-X awards Peptilogs for a potential total of up to US\$12.17 million. The initial funding (up to \$2.56 million) will be used to develop a new class of peptide antibiotics able to kill drug-resistant bacteria.

This newly developed antibiotic would be used for an infection following an implant of prosthetic knee or hips. The funding will support the development of one of the promising compounds, the filling form application and the first phase of clinical trial.

Source: [CARB-X](#), 25 February 2020

Novartis and DNDi to collaborate on the development of a new oral drug to treat visceral leishmaniasis

A collaboration has been established between Novartis and the Drugs for Neglected Disease initiative. They will jointly develop LXE408, a promising potential oral drug against a parasite, the visceral leishmaniasis.

Novartis promised to distribute the drug at an affordable basis worldwide with an emphasis toward the endemic countries. They will be responsible of the drug development, the legislative paperwork and the phase I clinical trials.

DNDi will be responsible of the phase II and III with Phase II due to start at the beginning of 2021 in India.

Source: [DNDi](#), 25 February 2020

ProMED-AMR, a partnership between ISID and Public Health England is set to bolster global AMR surveillance

A new partnership between ISID and Public Health England aims to obtain a global overview of the AMR situation. With the surveillance of AMR outbreak with technology transfer, monitoring, evaluation and information exchange, they set one’s sights on increase the awareness of practitioners and policy makers as well as providing useful data.

They will focus on AMR propagated in and between humans, animals and the environment. They yearn to be free of charge with a near real-time information distribution.

Source : [International Society for Infectious Diseases](#), 26 February 2020
