

CRISPR-powered multiplexed biosensors for point-of-care management of infectious diseases

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Nucleic acid diagnostics testing is decisive for the diagnosis and treatment monitoring of infectious diseases^[1]. Over the last years, particularly the (re)emergence outbreak of infectious diseases (such as COVID-19 caused by the virus SARS-CoV-2) further stimulates the development of novel tools for nucleic acid testing. Beside its wide application in gene editing, CRISPR technology provides a powerful tool for the highly sensitive and selective quantification of nucleic acids^[2].

In this talk, first a short introduction into the CRISPR-powered diagnostics will be given. Then, an electrochemical microfluidic multiplexed biosensor (BiosensorX)^[3] for CRISPR-powered point-of-care diagnostics of COVID-19 will be presented (**Figure 1**)^[4]. Without any target amplification, CRISPR-BiosensorX offers a low-cost, easily scalable and multiplexed approach for on-site diagnostics of nucleic acids and other biomolecule classes (such as drugs like β -lactam antibiotics) simultaneously.

References

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Figure

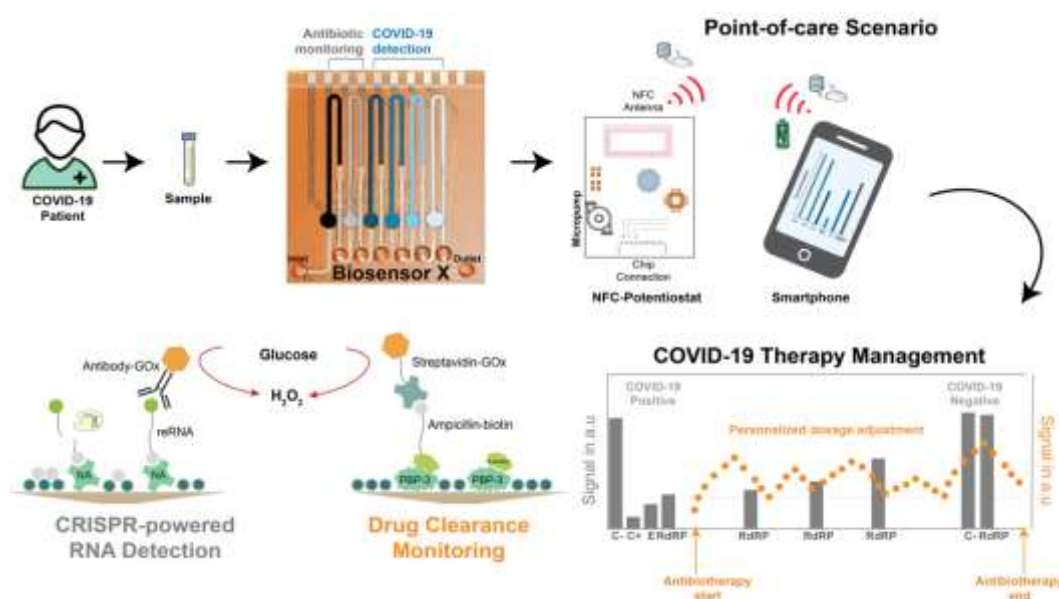


Figure 1. Envisioned point-of-care scenario for monitoring the treatment of bacterial co- or superinfection in COVID-19 patients, using the BiosensorX platform^[4].