INVITED PRESENTATION

Diagnostics Tools for HIV and Monkeypox in Low- and Medium-Income Countries

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Abstract

Forty-seven percent of the world's population has little to no access to diagnostics, with the greatest impact on populations in low- and medium-income countries (LMICs). This is problematic for equity, social justice and pandemic preparedness. Among the many reasons for this inequitable access is the conception of unsuitable diagnostic tests for LMICs. How can researchers develop adapted tests for LMICs? To adress this need, we first developed a new diagnostic technology (LuLISA) with high sensitivity, high troughput, and reduced cost. However, this technology is not well suited to LMICs. Hence, we adapted this technology to a nitrocellulose based diagnostic test (LuLiStrip) and stick format (LuLiStick) to democratise our technology for different needs including laboratories with limited equipment and funding. As our technologies are based on the use of nanobodies-fused-luciferase, we have also developed our own portable luminometer. Through these innovations, we aim to democratize the use of bioluminescence in diagnostic testing for laboratories implemented in LMICs and for point-of-care testing.