Machine learning software to predict antibiotic resistance and pathogen types

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Advancing Data Technologies to corner AMR

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Image credits: Microrao; https://commons.wikimedia.org/wiki/File:Antibiotic_resistant_bacteria.jpg Image credits: Netha Hussain; https://en.wikipedia.org/wiki/File:Infiltrating_ductal_carcinoma_20X.jpg



Diagnostic Platform



A new standard for in vitro diagnostics



OPTIMAL INITIAL ANTIMICROBIAL THERAPY

This translates to

better patient care

reduced hospitalization costs

control the spread of antimicrobial resistance





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Applications

Tuberculosis

Sexually transmitted infections

Urinary tract infections

Post-operative infections

Meningitis

Drug resistant tuberculosis – a global challenge

PERCENTAGE OF NEW DRUG-RESISTANT TB CASES

In 2018

10,400,000 cases 1,600,000 deaths

~2 billion people carry the disease

Increasing drug resistance 480,000 cases 230,000 deaths



Source: Global Tuberculosis Report 2017 | WHO (2017)



Aim: choose the correct initial therapy



Aim: choose the correct initial therapy



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Team



Partners

R&D	UNIKLINIK KÖLN	University of Zurich ^{uzH} Klinikum rechts der Isar	C · U/	FFIK INSTITUT FÜR INFEKTIONSKRANKHEITEN
Business Development	BioEntrepreneurship & Innovation	SWISSNEX 🔧	CTI – Start-up and Entrepreneurship, R&D Funding, KTT Support	VENTURE •••• KICK •••
Suppliers & distributors	Thermo scientific	QIAGEN	BLUEBEE High Performance Genomics	Axonlab connecting ideas
Regulatory	E F F E C T U M M E D I C A L YOUR START-UP TO MARKET	Confinis regulatory compliance worldwide		
Fund raising	Catalyne Deas Forward UZCe®			
Market access & policy drivers	World Health Organization	FIND Because diagnosis matters	💥 ESCMID	