

Clinical encounter
Resource-poor setting

Sample collection
Urine, blood, stool

Infection control
Optimal clinical care



DIAGNOSTIC TEST

The ideal test is inexpensive, accurate, provides a result rapidly, and can be used on multiple specimen types without technical expertise, ancillary equipment, or power.

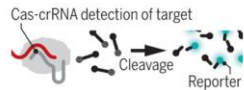
1 Prepare sample, release and protect nucleic acids
Method: HUDSON



2 Amplify DNA and RNA
Method: RPA

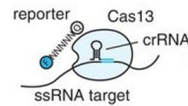


3 Accurately detect target and amplify signal
Method: SHERLOCK

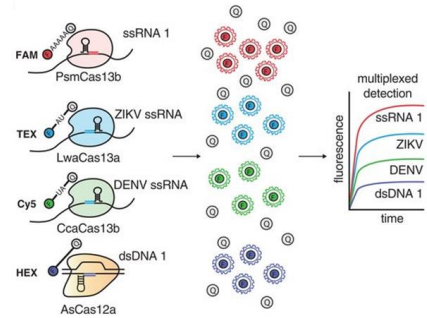


Adapted from Daniel S. Chertow, Next-generation diagnostics with CRISPR. 2018

A



B



Adapted from Gootenberg JS *et al.*, Multiplexed and portable nucleic acid detection platform with Cas13, Cas12a, and Csm6. 2018

Improving East Coast fever Diagnostic Tools

November 2020 – Oct. 2024



USAID
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The U.S. Government's Global Hunger & Food Security Initiative

ILRI
INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE
better lives through livestock



Objectives

- 1) Development of a pen-side diagnostic test for *Theileria parva* using the CRISPR-Cas technology to support farm-level rapid diagnosis & response to ECF in the field.
- 2) Development of a multiplex CRISPR-Cas diagnostic assay to support vaccine and epidemiological research.

PIs : Nicholas Svitek and Julius Oyugi

Partners: Consortium with partners from Washington State University, University of Nairobi, KALRO and KEMRI.

Funding: USAID- Feed the Future Innovation Lab for Animal Health.

Highlight of 2020 achievements

- First consortium meeting with partners.
- Planning of the next 4 years of the project.
- First meeting with the Advisory Team.

