INTUITIVE DX

Prototype brochure: not for sale. The EV-HIV test is still in development.

EV-HIV Rapid Test

Antigen-only detection enabled by extracellular vesicles

EARLIER SIGNAL. SIMPLE FORMAT.

A next-generation lateral flow prototype designed to immunocapture HIV-associated EVs and immature virus particles, lyse them on-device, and reveal HIV antigens from EV cargo in a familiar rapid-test format.

1 Earlier detection target

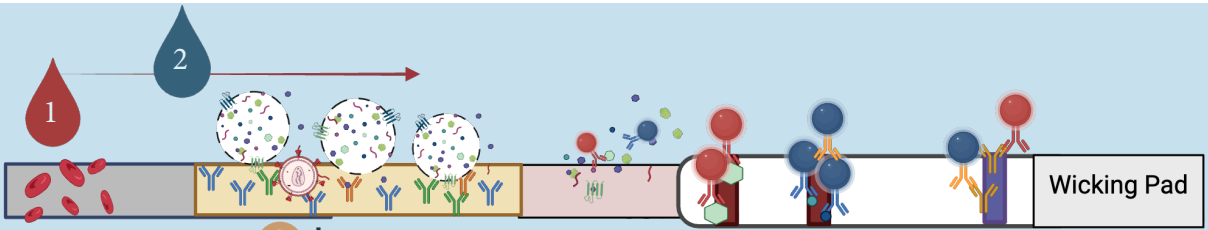
Directly targets HIV antigens instead of waiting for an antibody response to mature.

2 EV-enabled concentration

Capture leverages shared surface features of EVs and virions for enrichment on-strip.

3 Prototype-ready workflow

Fingerstick blood sample plus buffer and a visual readout in a familiar rapid-test kit format.



1 Capture
RBCs are retained in sample pad allowing EVs and virions in plasma to flow to EV Capture zone.

2 Lyse
Lysis buffer releases target HIV proteins from captured EVs and pushes antigens towards conjugate pad.

3 Read
Conjugate/antigen complexes are captured at test lines providing a visual readout in a familiar rapid-test format.

Why the EV approach matters

Earlier detection is possible because EVs containing HIV antigens are made prior to virus replication and are in circulation in high numbers. Antigens are protected from the developing antibody response, providing compatibility with vaccination, therapeutic intervention, and prevention strategies using antibodies.

Key advantages for EV-based diagnostics:

- Antigen-only design focused on viral proteins rather than host antibodies
- Potential to narrow the early diagnostic gap during acute infection
- EV-based capture introduces a novel biomarker reservoir for lateral flow testing beyond infectious disease
- Kit form factor aligns with familiar rapid-test workflows and packaging

Prototype kit contents

- Lateral flow device
- Lysis buffer dropper
- Sterile finger lancet
- Sealed pouch packaging