

**Nucleic acid purification**

## Extract nucleic acid from plasma or dried blood spot samples for detection of HIV-1 drug resistance

Current efforts to expand drug resistance testing are limited due to these key challenges:

- High cost per sample
- Difficulty of shipping to and from remote areas
- Lack of a complete workflow solution

In an effort to enable widespread drug-resistance surveillance testing at greater volumes, the workflow using the Applied Biosystems™ MagMAX™ Viral/Pathogen Nucleic Acid Isolation Kit for HIV-1 Dried Blood Spots (DBS) and the Applied Biosystems™ HIV-1 Genotyping Kit with Integrase offers robust, cost-effective nucleic acid purification and genotyping with flexible starting sample types (DBS and EDTA-treated plasma). These benefits can be especially important when performing research in remote or resource-limited areas.

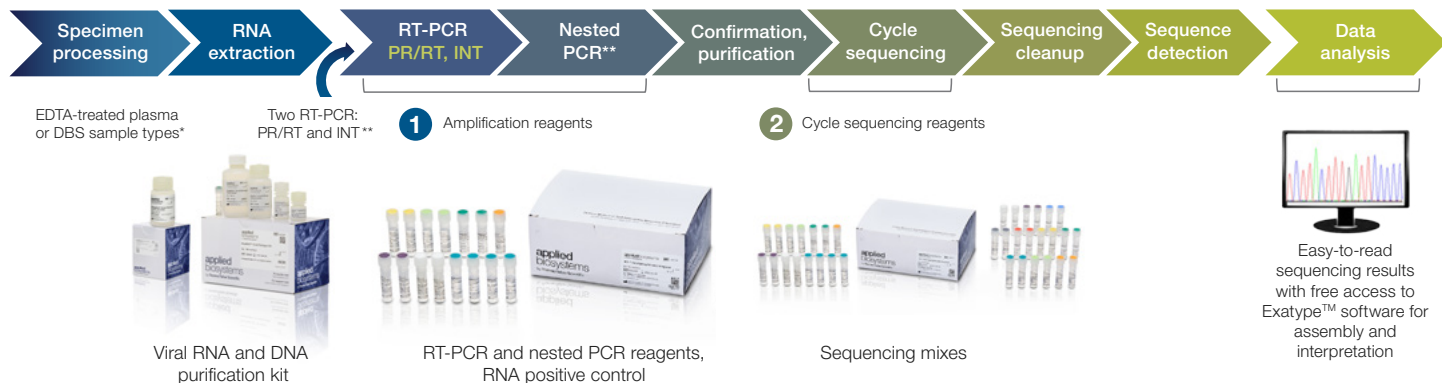


MagMAX Viral/Pathogen Nucleic Acid Isolation Kit for HIV-1 Dried Blood Spots (DBS)

Workflow features include:

- **Easy transportation**—DBS samples can be transported at ambient temperatures, enabling sample integrity even during transport delays; they are shipped as nonhazardous materials, reducing hassle and shipping costs
- **Increased throughput**—automation capabilities with [Thermo Scientific™ KingFisher™ purification systems](#) allow for increased throughput and increased yield
- **Flexible sample input**—works for both EDTA-treated plasma and DBS samples
- **Small sample size**—requires less sample input (50–100 µL per spot), which makes samples easier and more comfortable to obtain
- **Simplified downstream genotyping**—compatible with the [HIV-1 Genotyping Kit with Integrase](#) for a straightforward workflow and easier purchasing and shipping; benefits of the genotyping kit include:
  - **Broader subtype coverage**—focused detection in consensus drug resistance mutations (DRMs) in the protease and reverse transcriptase (PR/RT) and integrase (IN) regions of the HIV-1 *pol* gene
  - **Efficient workflow**—total run time of about 20 hours for processing 16 samples from extracted RNA to results

## Complete workflow for HIV-1 drug resistance



Scalable: ~4.5 hours hands-on time, ~20 hours from RT-PCR to interpreted results



Convenient stopping points



Designed for optimal resource planning



Can confirm amplification on gel

\* DBS samples must be processed within 2 weeks of collection under ambient storage conditions.

\*\* Sample is split for PR/RT and INT testing at RT-PCR stage.

See application note evaluating this workflow as an aid for researching genomic mutations in the PR, RT, and IN regions of the HIV-1 *pol* gene in RNA extracted from DBS at [thermofisher.com/magmax-dbs](http://thermofisher.com/magmax-dbs)

### Ordering information

#### MagMAX Viral/Pathogen Nucleic Acid Isolation Kit for HIV-1 Dried Blood Spots

<b>Cat. No.</b>	A53770		
<b>Quantity</b>	100 reactions		
<b>Kit components</b>	<ul style="list-style-type: none"> <li>Dried Blood Spot Lysis Solution, 60 mL</li> <li>Binding Solution, 55 mL</li> </ul>	<ul style="list-style-type: none"> <li>Wash Solution, 100 mL</li> <li>Elution Solution, 10 mL</li> </ul>	<ul style="list-style-type: none"> <li>Proteinase K, 1 mL</li> <li>DNA/RNA Binding Beads, 2 mL</li> </ul>
<b>Kit storage temperature</b>	15°C to 25°C		
<b>Sample types</b>	Plasma and DBS		
<b>Instruments required</b>	<ul style="list-style-type: none"> <li>Magnetic stand (manual protocol)</li> <li>Thermo Scientific™ KingFisher™ Sample Purification System (automated protocol)</li> </ul>		

If using plasma samples only, the Applied Biosystems™ MagMAX™ Viral/Pathogen Nucleic Acid Isolation Kit (Cat. No. A48310) can be used.



See more or order now at [thermofisher.com/magmax-dbs](http://thermofisher.com/magmax-dbs)

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