

Leprechaun



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LABS

Find your pot of gold

Leprechaun is the only system that hunts down titer and structure for viruses and exosomes without worrying about sample purity. Triple-check lentivirus particles to be sure they are the right size, have the right structure and contain RNA – in both crude and pure samples. Uncover exosome concentration and phenotype in everything from cell culture to biofluids. Make your own luck and follow Leprechaun straight to the viral titer or exosome concentration you've been looking for, without the noise from trickster particles throwing you off the trail.

Lentivirus

- Titer
- Structure
- RNA content
- Contaminant analysis

Exosome

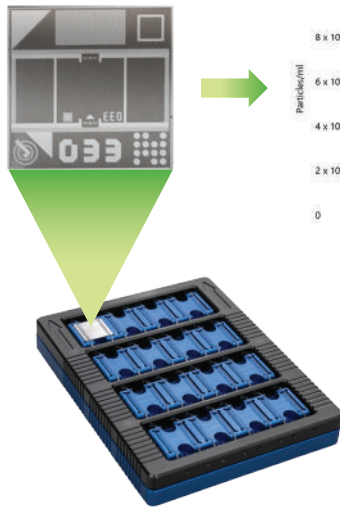
- Size
- Concentration
- Phenotype



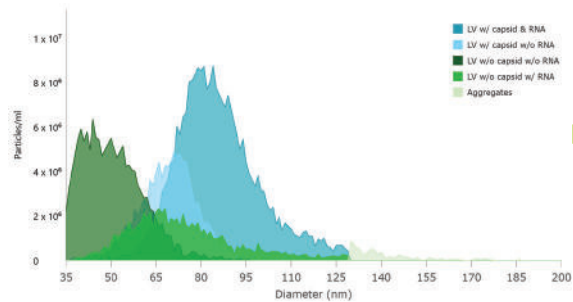
Follow the rainbow

Leprechaun characterizes vectors like lentivirus and exosomes – on up to 16 samples at a time. The Luni consumable is where 1–25 μL of your vector is captured, sized, and then the structure of every particle is identified using immunofluorescence. Out-of-the-box kits with step-by-step protocols deliver answers in just a few hours.

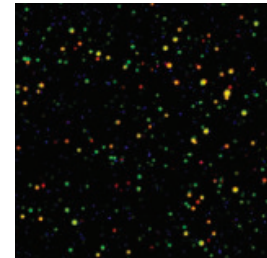
Capture on Luni



Size by interferometry

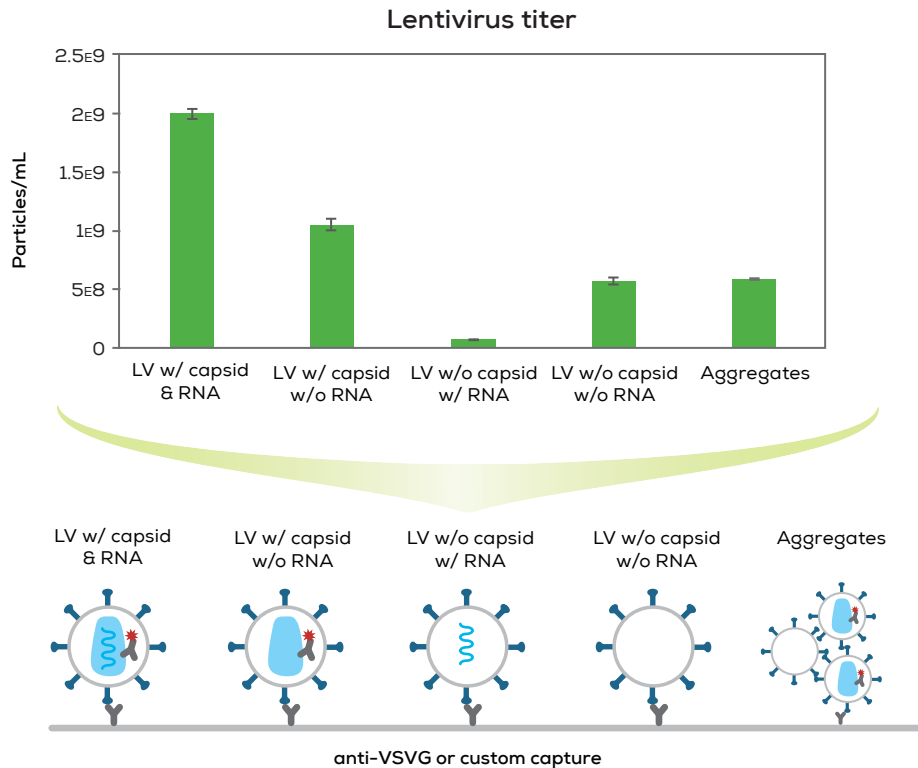


Immunofluorescence



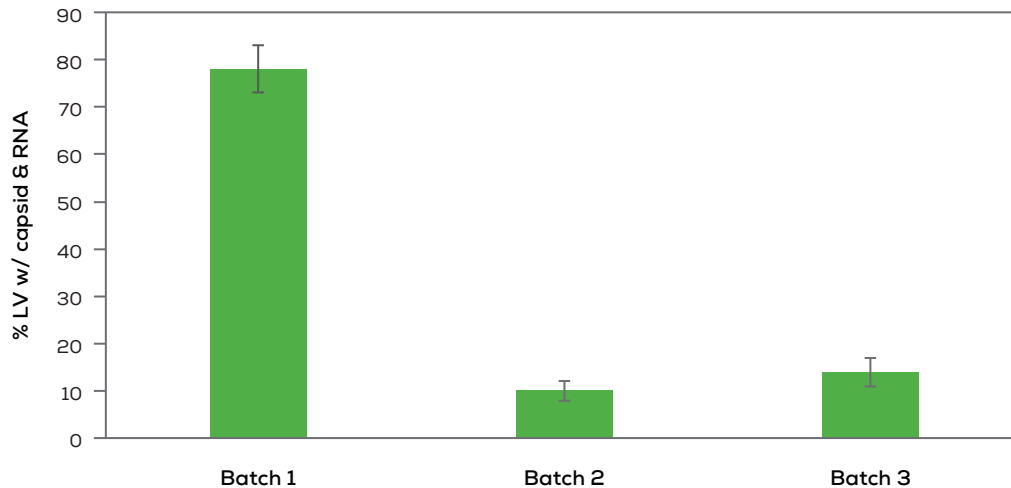
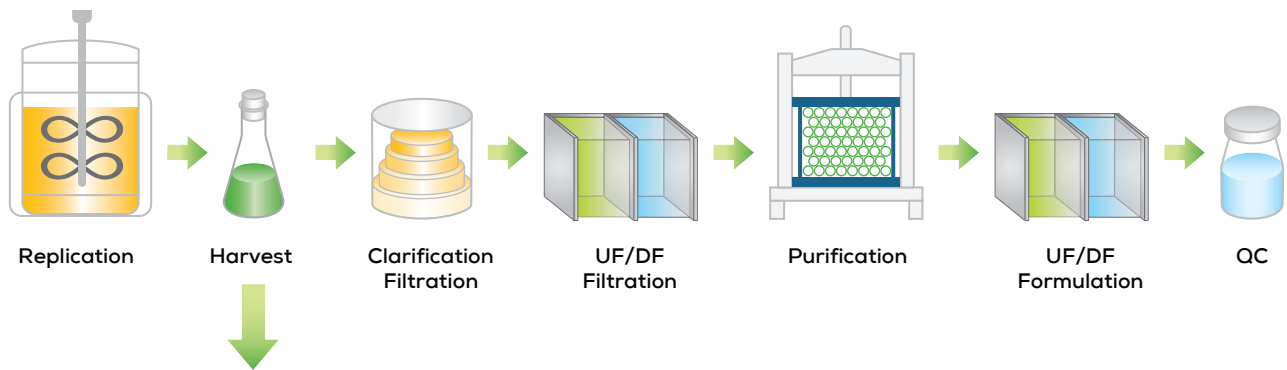
Any lenti, anytime, anywhere

Rack up complete biophysical characterization of each lentivirus particle at every stage of the production process. Capture lenti down to 1×10^7 particles/mL using our antibodies or yours, then size them up to sort out individual viruses from aggregates. Confirm how many of your viruses have a capsid with fluorescent antibodies while RNA dye lights up the ones that have that critical nucleic acid on board. Leprechaun can tackle any lentivirus, whatever the flavor.



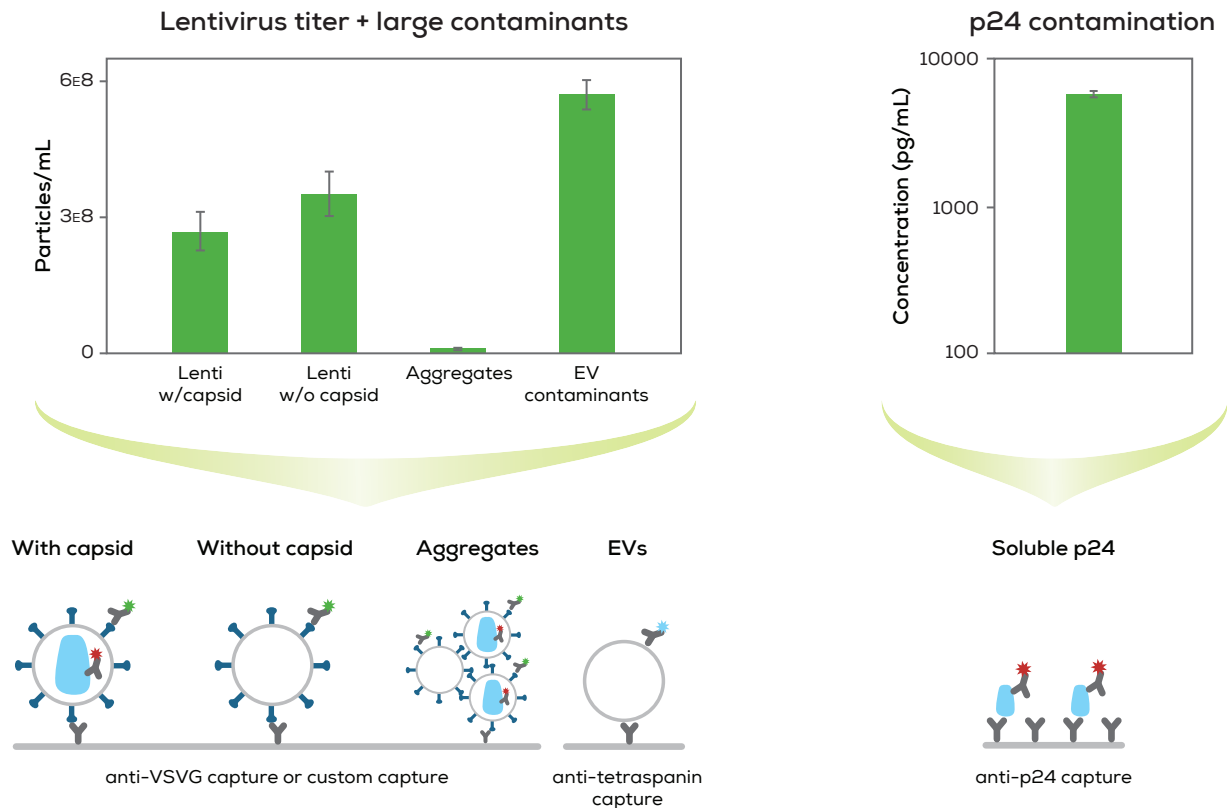
Track down the good stuff

Counting up how many of your lentivirus contain RNA at the first step of your process is tricky with all the cellular junk in upstream samples. Leprechaun's RNA kit pulls back the curtain at harvest to reveal which batches have the highest quality starting material. Move ahead with only the best preps and leave the trash behind.



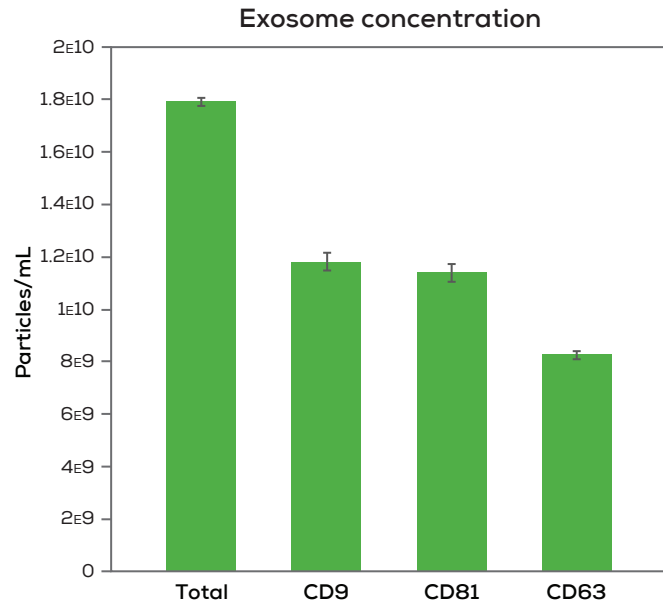
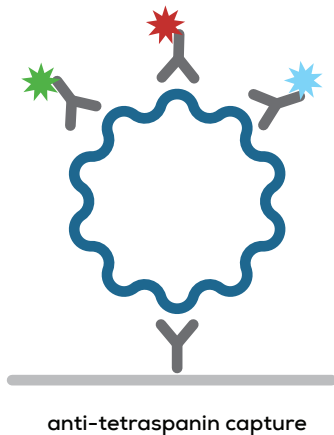
Sniff out contaminants

Dig into the details to see if your clean-up steps are doing their job with the Lentivirus EV Contaminant Kit. Ensure your batch isn't full of undercover EVs pretending to be virus. Figure out how much p24 is inside viral particles and how much is roaming free as a soluble contaminant. For the first time you can monitor titer, structure and purity throughout your whole process.



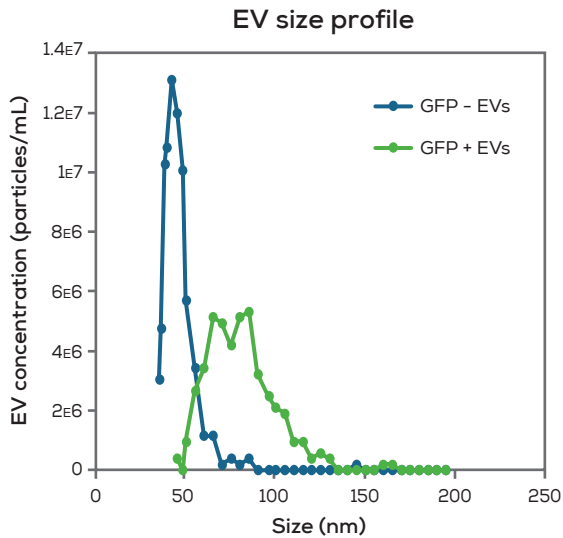
Explore your exosome

Getting your exosome concentration is tricky and confirming that your cell line made what you want is crazy hard. Leprechaun gets exosome concentration in a jiff by grabbing them by their surface proteins, sizing them up and doubling-down with fluorescence to confirm all the right proteins are there. Whether your markers are internal or external Leprechaun gives you colocalization info on up to four proteins, all from a few μl of sample without the need for purification.



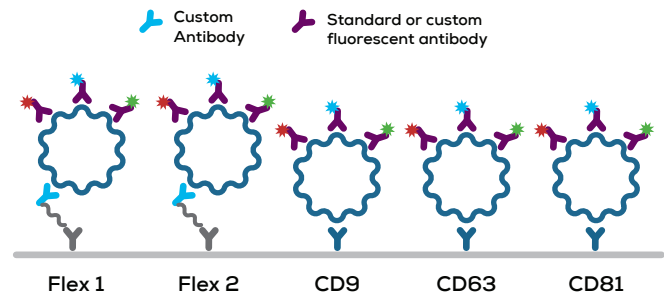
Size up your EVs

Get the measure of even the smallest vesicles with Leprechaun. Single particle sizing down to 35 nm means no EV is off limits. From exosome to exomere Leprechaun lets you size, count and phenotype the small stuff so you can get the full picture of what's in your sample.



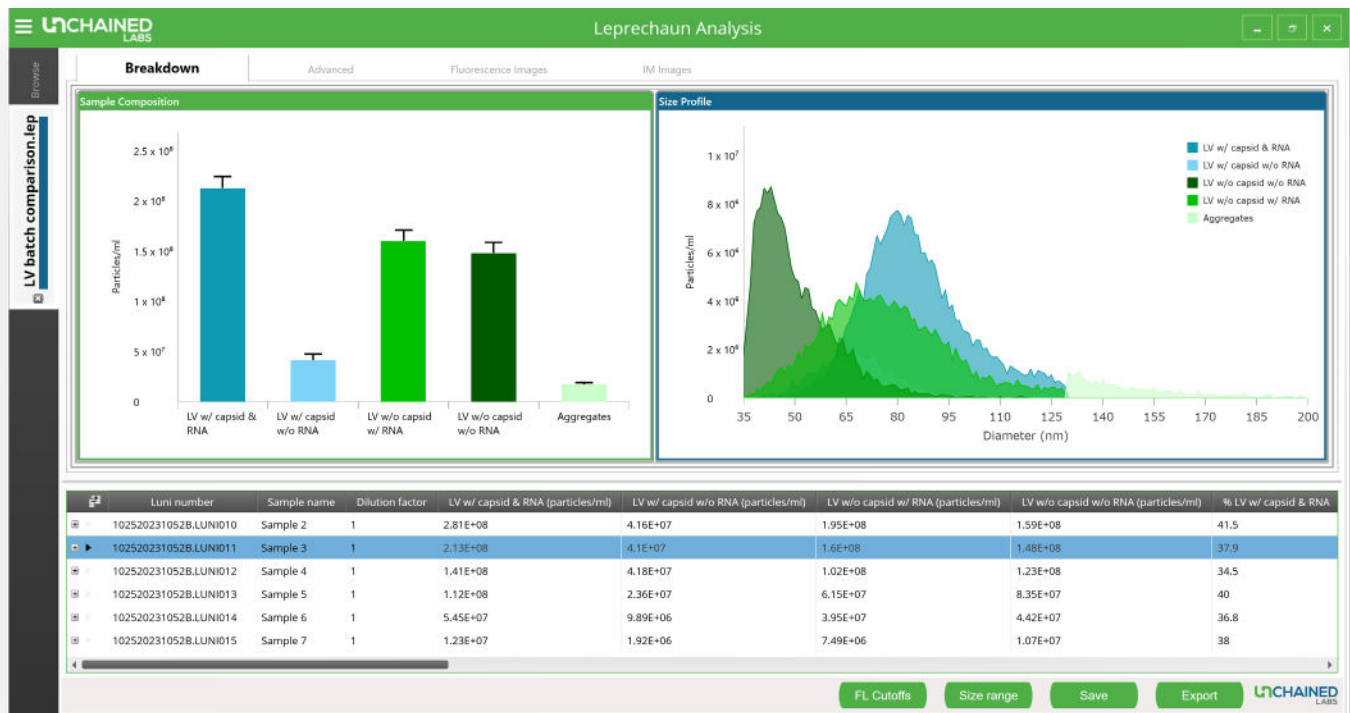
What a flex

For unique situations you can customize the assay using your own detection antibodies or change up the capture marker using a Flex Kit. Look at any marker, in any sample, without the need to purify.



Cut to the chase

Zero in on particle concentration, size and structure with easy to use, automated analysis software. Have faith in your results with auto disabling of outliers and background removal. Leprechaun Analysis gives instant results for your lentivirus or EVs, whatever the structure or subpopulation. If you need to tweak things, customizable size ranges and fluorescent cut-offs let you tune to your taste.



Instrument	Specification
Dimensions	23.4 cm W x 47.8 cm D x 35.2 cm H; 20.5 kg
Computer	Separate computer with Windows 11 included
Electrical	Input voltage: 110-220 V AC, 50-60 Hz, Max power: 72 Watt
Detection method	Cooled Scientific CMOS image sensor
Approval	CE, TUV
Interference Reflectance Microscopy	
Light source	415 nm LED
Size range	35-200 nm
Sizing accuracy (% error)	≤5%
Fluorescence Microscopy	
Light sources	LED: 470 nm (Blue), 567 nm (Green), 623 nm (Red)
Excitation and emission filters	Blue: 465-495 nm (ex); 505-530 nm (em) Green: 543-568 nm (ex); 580-608 nm (em) Red: 625-655 nm (ex); 665-725 nm (em)
Fluorescence intensity precision	≤5%
Consumable	
Samples per Luni	1
Technical replicates per Luni	3 or 6, application dependent
Lunis per run	1-16
Assay Specifications	
Sample compatibility	Lentivirus: From cell harvest to purified sample Exosomes: Cell culture media, plasma, serum, CSF, urine
Sample volume range	1-25 µL diluted in supplied buffer
Titer dynamic range	Lentivirus: 1×10^7 – 5×10^6 vp/mL Exosomes: 5×10^6 – 5×10^8 particles/mL (1 hr incubation) 5×10^5 – 5×10^7 particles/mL (16 hr incubation)



Unchained Labs

4747 Willow Rd

Pleasanton, CA 94588

Phone: 1.925.587.9800

Toll-free: 1.800.815.6384

Email: info@unchainedlabs.com

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