HOUND

UNCHAINED LABS

Characterize all your particles

Hound is the only tool out there that combines microscopy, Raman and Laser-Induced Breakdown Spectroscopy (LIBS) to count, size, and ID particles by their chemical or elemental fingerprints. With all these capabilities packed into one instrument, Hound gathers up all the info you need about your particles in minutes.

Count

Size

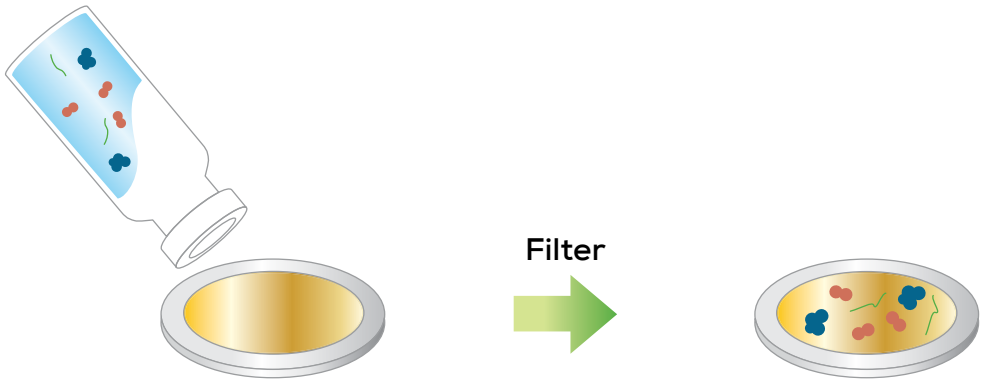
Shape

Chemical ID

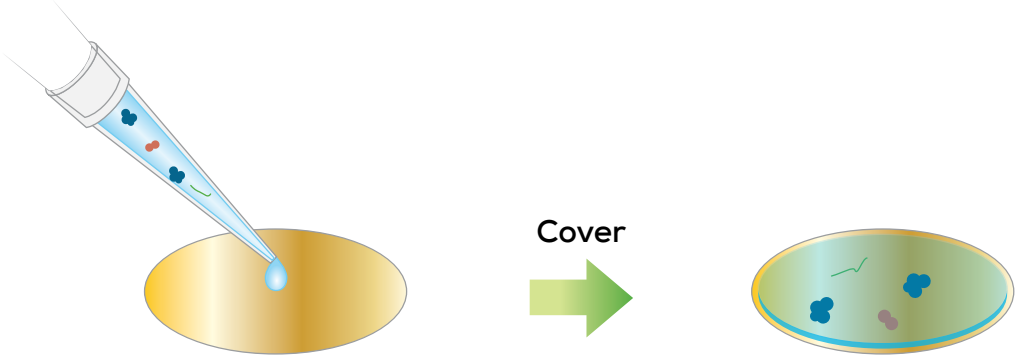
Elemental ID

Round them up

Hound lets you prep your sample for any type of analysis. Capture big, visible particles by plucking them from solution, or pour the whole sample through a filter round if they're small. If you want to keep them in suspension, just pipette the sample onto a wet round. No matter what works best for your samples, the gold-coated surfaces catch everything and cut out all the background noise.



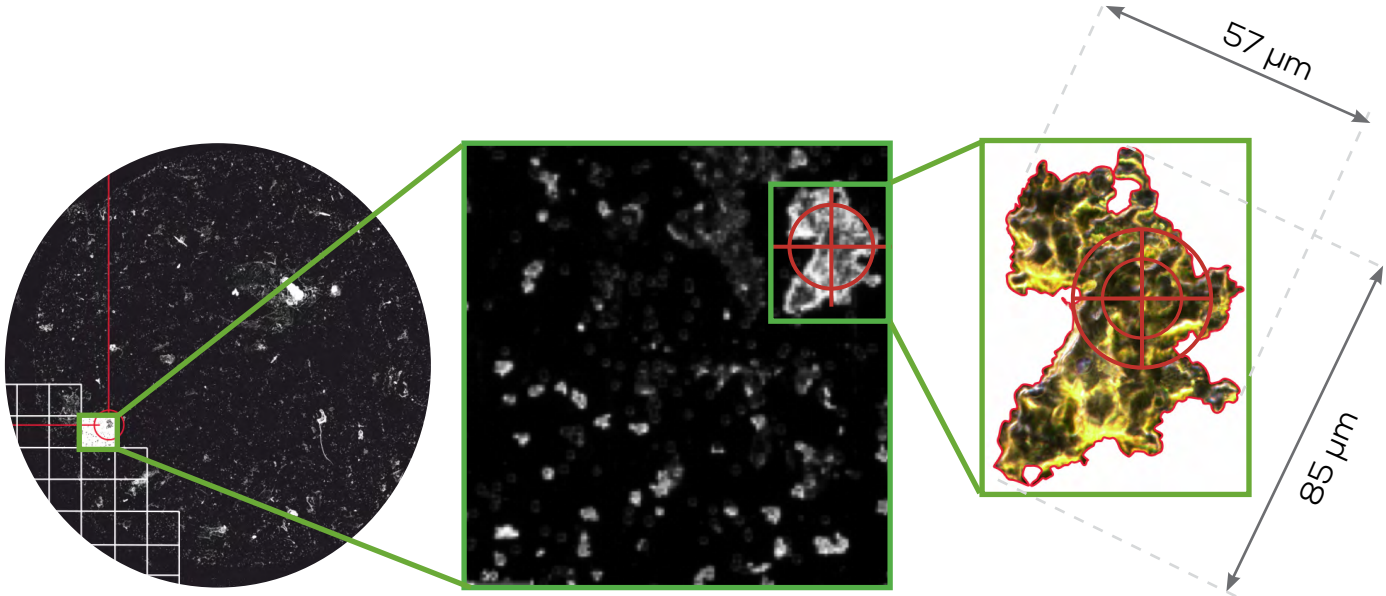
Isolate particles on filter rounds



Suspend particles in wet rounds

Track them down

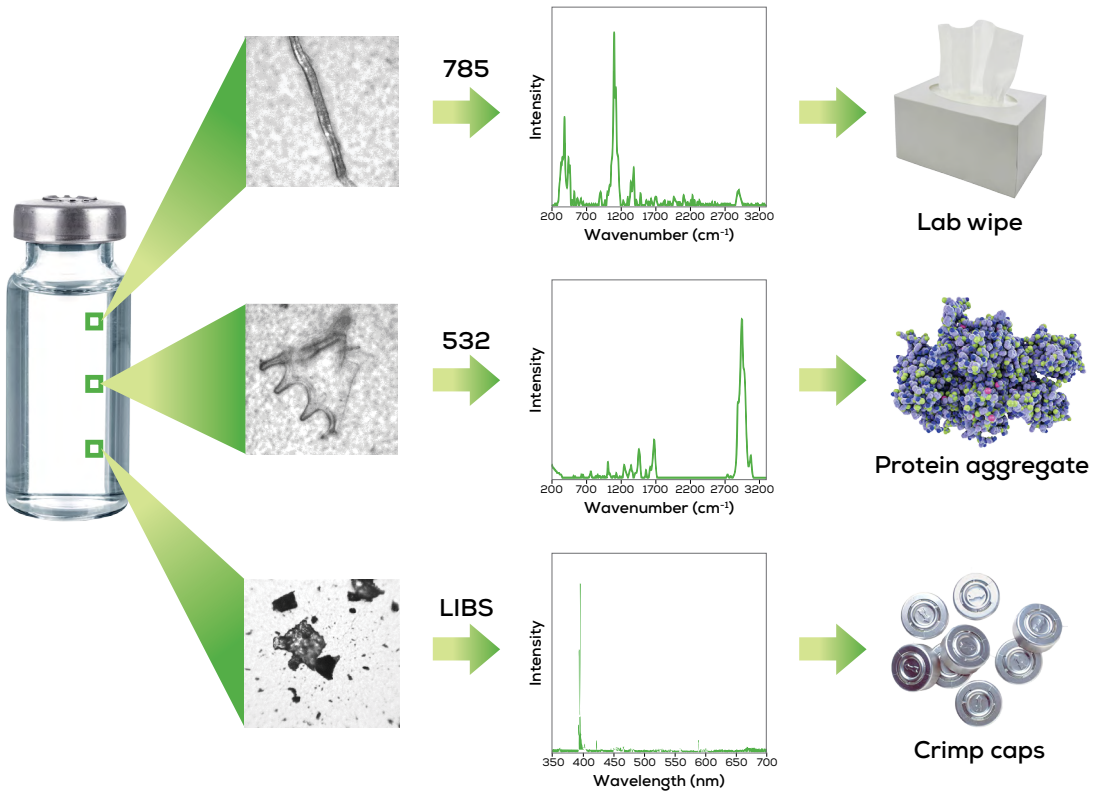
Once you've snagged all your particles, Hound automatically spots them and sizes them up. It uses bright-field or dark-field imaging, so nothing sneaks by – not even tricky translucent particles like proteins. Hound scans the round and reports the size, shape, morphology and fibrosity of everything within minutes.



Automated microscopy Target selection

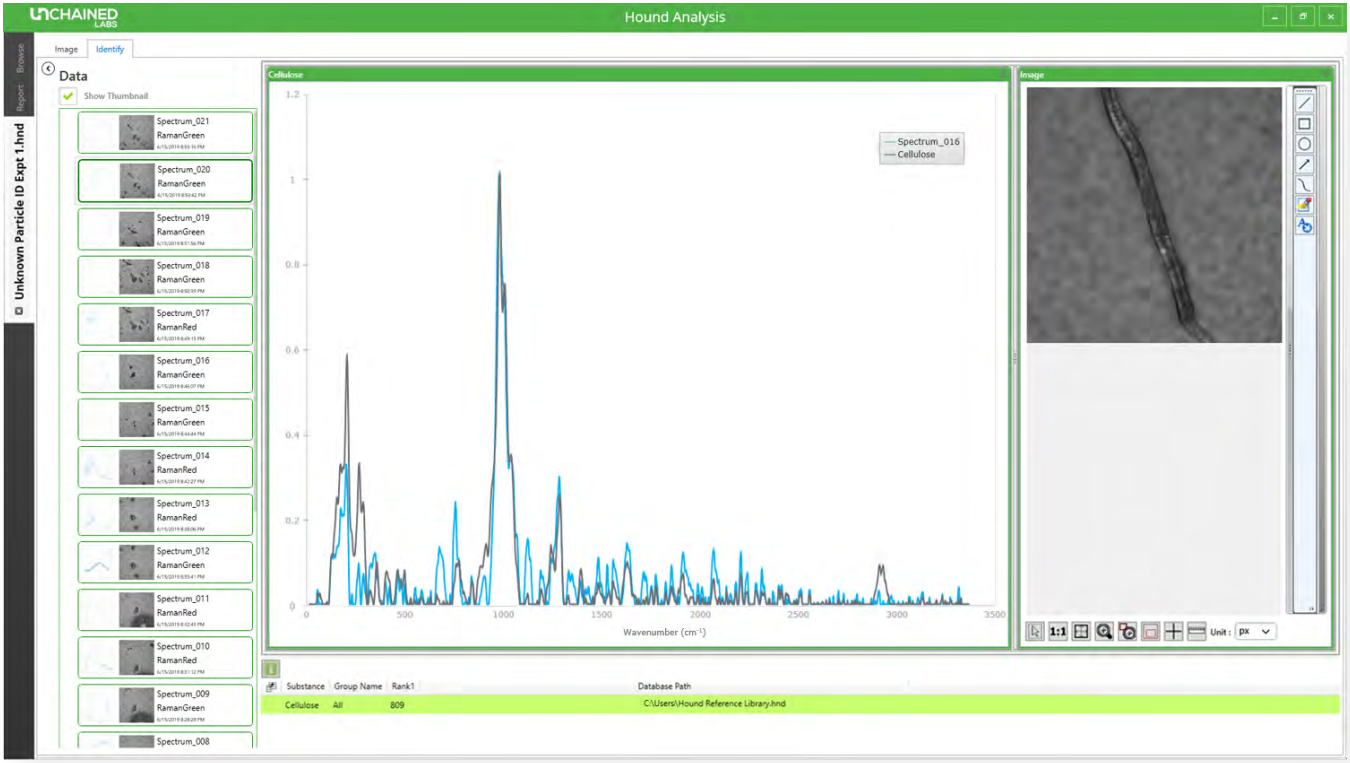
Identify the unknowns

If you can't figure out your particle by just size and shape, Hound has extra gear to characterize it. Raman 785 nm is the workhorse laser that can ID most particles. For protein aggregates or particles that have fluorescence, switch to Raman 532 nm. Think you have metals? Blast it with the LIBS laser to identify the particle based on its elements.



Teach Hound new tricks

Raman and LIBS capture the signature from your particles. These unique fingerprints can be saved to a customizable reference database – so the next time you'll ID it right away. Your images and spectra are stored for reference and reports, and 21 CFR Part 11 software tools help you maintain compliance through data collection and analysis.



Pick your Hound

Configuration	Proteins	Organics	Inorganics	Metals
Raman 785 nm + 532 nm + LIBS	Best	Best	Best	Best
Raman 785 nm + 532 nm	Best	Best	Good	N/A
Raman 785 nm	Good	Good	Good	N/A

Specifications

Description	Specification
Microscopy	**Imaging:** 5.1 MP color camera, 2048 x 2048 active pixel area **Magnification:** 5x, 10x, 20x, 20x w/UV filter (LIBS) and 50x objectives (Raman) **Illumination:** Integrated bright-field (all objectives) and dark-field (20x) **Particle size range:** 2 µm – 15000 µm (upper end may extend based on applications) **Accuracy:** ±5% sizing (magnification dependent), ±10% counting
Raman	**785 nm:** 70 mW, adjustable power, Class 3b laser **532 nm:** 30 mW, adjustable power, Class 3b laser **Objective:** 50x, 0.5 NA, 10.6 mm WD **Spectral range:** 200–3300 cm^{-1}, 6–10 cm^{-1} resolution (varies across range) **Minimum particle size:** 2 µm **Database:** >150 materials, customizable
LIBS	**Laser:** 337 nm, >100 µJ pulse energy, 3.0 ns pulse duration, Class 3B laser **Objective:** 20x with UV lens, 0.4 NA, 4.1 mm WD **Spectral range:** 360-860 nm, 0.7 nm resolution **Minimum particle size:** 20 µm **Database:** >50 materials, customizable
Sample mounts	**Standard:** Up to 4 gold-coated filter rounds or nitrocellulose membranes, single microscope slide **Optional:** Mount for wet round
Filter rounds	**Material:** Gold coated polycarbonate (PC) **Pore size:** 0.8, 3, 5 and 10 µm available **Diameter:** 25 mm
Wet rounds	**Material:** Gold-coated silica glass **Diameter:** 51 mm
Software	**Operating system:** Windows 10 **Compliance:** 21 CFR Part 11 tools included
Environmental	**Temperature range:** 18–28 °C **Humidity:** 40–60% relative humidity (non-condensing)
Physical	**Weight:** 65 kg **Dimensions:** 50 cm W x 60 cm D x 70 cm H
Electrical	110–230 V, 500 W
Certifications	NRTL and CE

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