

punk



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LABS

## Size it up

The pUNk puts a new spin on dynamic light scattering (DLS). It lets you snag a protein's hydrodynamic size, size distribution and aggregate population a lot faster and with a lot less hassle. If killer sensitivity is on your list, the pUNk's unique optical design has it crossed off. Get more done with the smallest, fastest and easiest to use protein sizing system.

- 5  $\mu$ L sample size
- Percent aggregation
- Protein size
- Polydispersity
- HPLC compatible



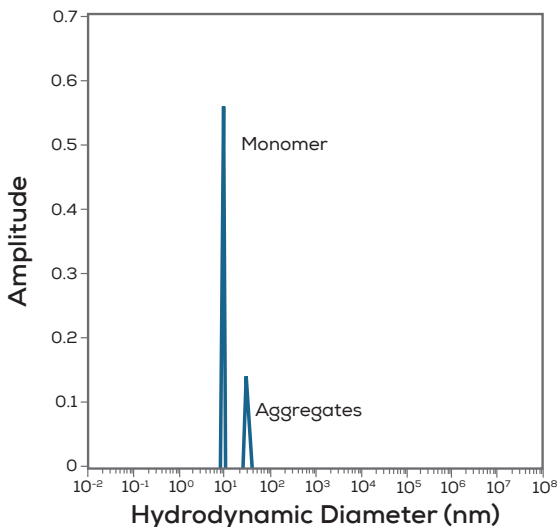
## Uncage the rUNt

The rUNt is a low-cost, low-volume, disposable cuvette – and the how behind the pUNK's zip and simplicity. It only needs 5  $\mu\text{L}$  of sample, and comes dust-free and ready to go right out of the package. So save sample for other experiments, skip the washing, and bang out results up to 8x faster.



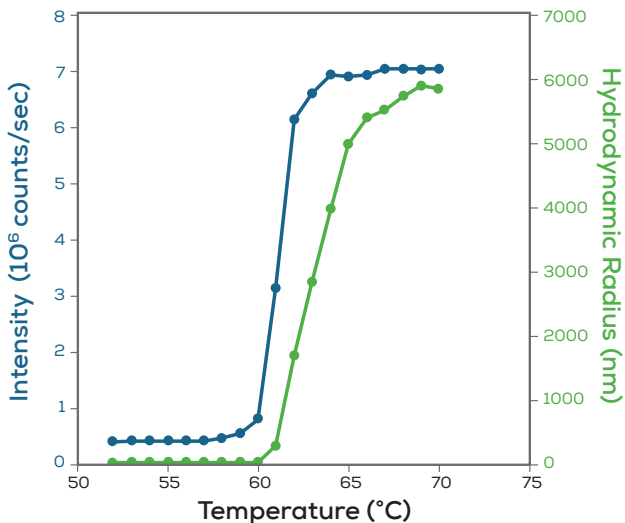
## Know what's up

Keep an eye out for the big stuff you don't want – like protein aggregation – with the pUNk. All it takes is a quick check to know what's going on with your protein. The pUNk whips out info on sample size distribution and if your protein's started to aggregate or not in about 30 seconds.



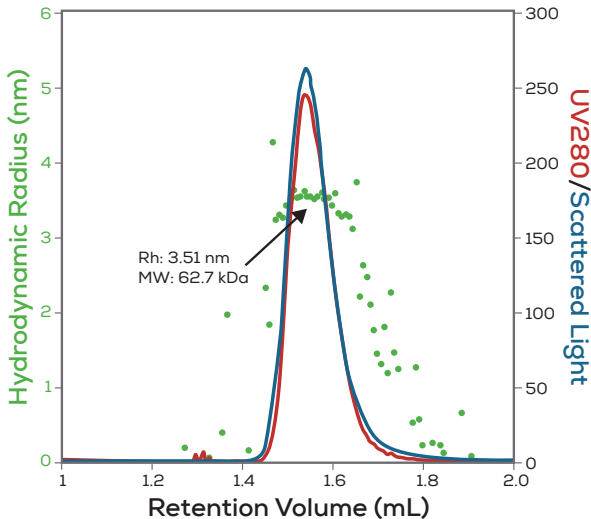
## Ramp it up

Crank up the heat and find out what temperature your protein aggregates at. The pUNK ramps from 0–90 °C with spot-on accuracy, letting you grab a snapshot of protein stability at any temperature. Find the proteins or formulations that are most stable at higher temps – the ones you want.



## Get your flow on

If chromatography-DLS is your thing, hook the pUNk up to an SEC-HPLC and throw it in flow mode. Using a standard 8  $\mu\text{L}$  flow cell, the pUNk kicks out hydrodynamic size and scattering intensity, that you can look at side-by-side with your UV data. So if you need accurate quantitation of protein monomer, dimer and aggregates at the same time – totally doable.



# Specifications

Description	Specification
Measurement range (hydrodynamic diameter)	0.3 nm (e.g., sucrose) – 1000 nm (certified standard)
Molecular weight range	192 Da (e.g., caffeine) – 25 MDa
Polydispersity	<0.1 (certified standard)
Min sample concentration	0.1 mg/mL of lysozyme in phosphate buffer (1.9 nm radius), much lower concentration required for larger particles
Sample liquid volume (min – max)	2 $\mu$ L (12 $\mu$ L quartz cuvette) – 45 $\mu$ L (45 $\mu$ L quartz cuvette)
Sample cuvette types (typical)	<ul style="list-style-type: none"> <li>• rUNT, 5 <math>\mu</math>L polycarbonate disposable</li> <li>• Generic 12.5 mm square-walled cuvettes, 4 clear windows</li> <li>• 8 <math>\mu</math>L flow-through cell</li> <li>• 12 <math>\mu</math>L or 45 <math>\mu</math>L quartz</li> <li>• 50 <math>\mu</math>L polystyrene disposable</li> </ul>
Measurement time (typical)	30 sec
Temperature control range	0–90 °C
Temperature control accuracy	$\pm$ 0.2 °C
Light source	660 nm laser diode
Detector type	Photodiode module
Environmental conditions	Temperature range: 10–40 °C
Humidity control	Humidity: 10–90% 4 mm dry gas inlet available
Physical	13 cm W x 34 cm D x 21 cm H, 6.5 kg
Electrical	Universal input, voltage 100–240 V AC, 50–60 Hz
Computer OS	Microsoft Windows XP or 7 (32 or 64 bit)
Computer communication	1 USB port



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