

STUNNER



UNCHAINED
LABS

Quant and sizing mash up

Stunner pulls double-duty so you don't have to. It's the only system out there that takes UV/Vis concentration and Dynamic Light Scattering (DLS) size measurements from the same sample at the same time. Nail down your protein quality by knocking concentration, hydrodynamic size, polydispersity, and detection of aggregates off your list in one shot. Without skipping a beat, you can also measure the colloidal stability of your samples or design your own custom apps.

Concentration

Sizing

Polydispersity

B_{22}

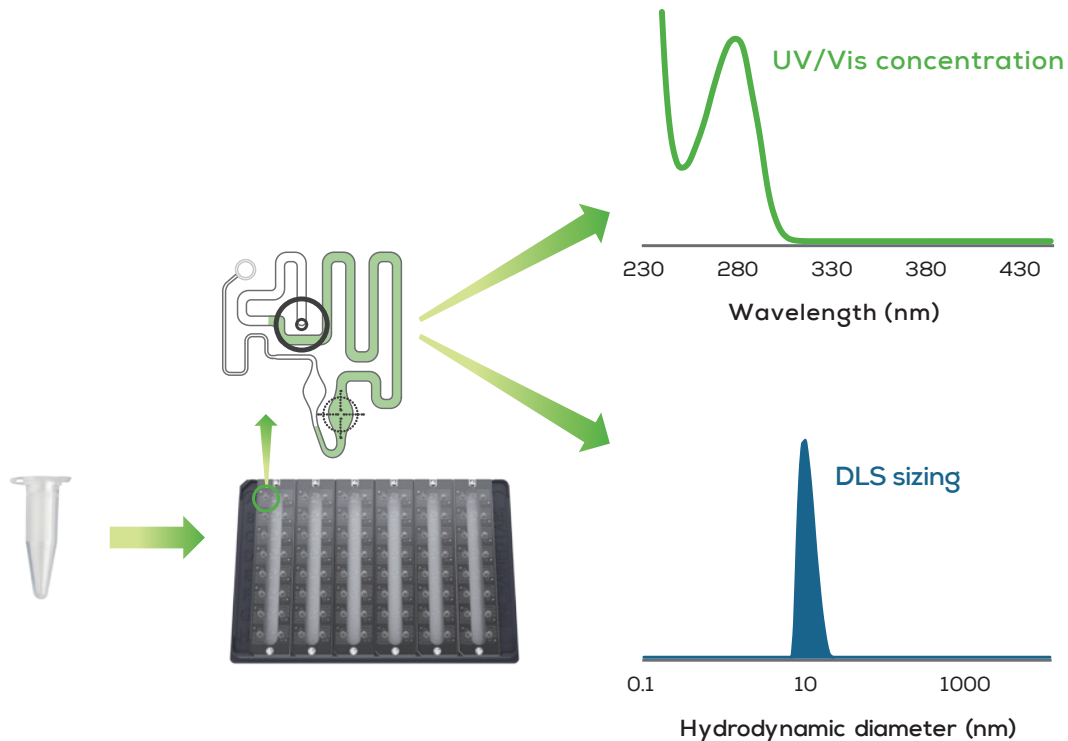
k_D

Homebrew



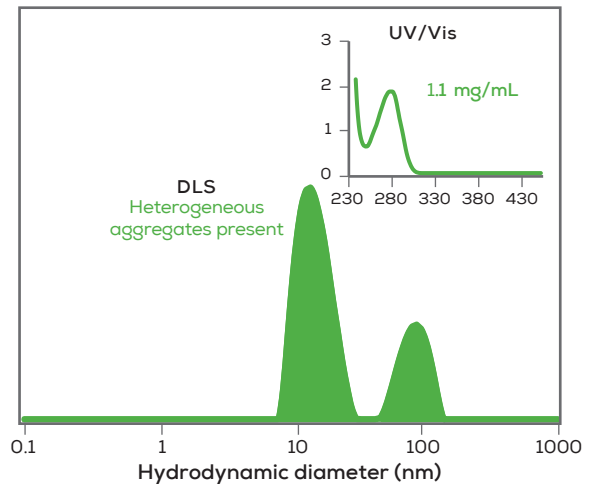
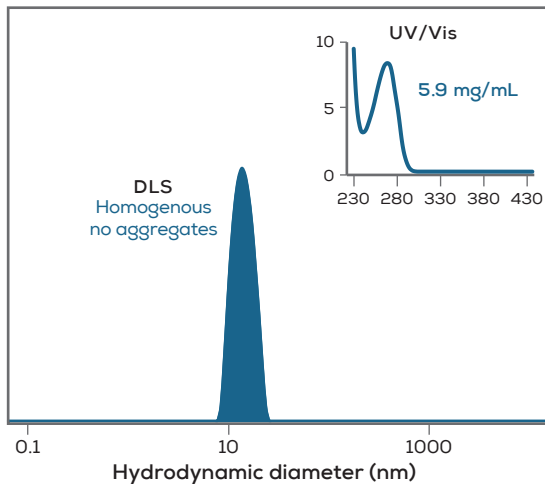
Teeny sample, tons of info

Just load 2 μL of sample in a Stunner plate—don't bother with sample prep or dilution. If all you need is a quick fix on one sample, load it up and you'll be done in a minute. If you're dealing with a full plate, get 96 concentration measurements in 12 minutes – add on DLS sizing and have both done in an hour. For even heavier workflows, hook it up to your favorite robot to add more oomph.



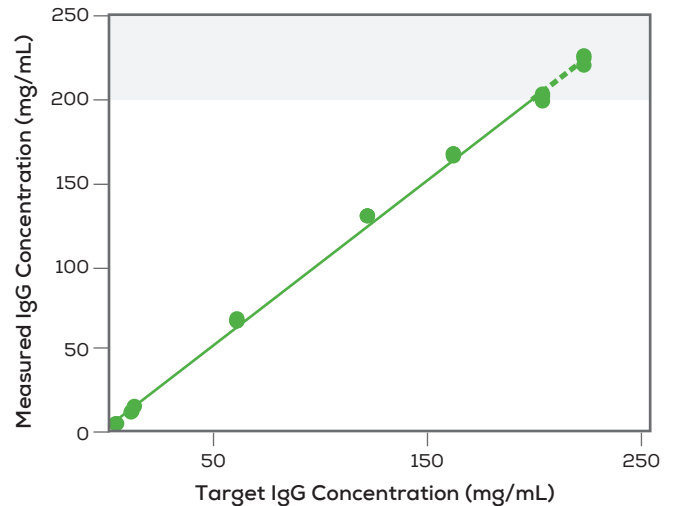
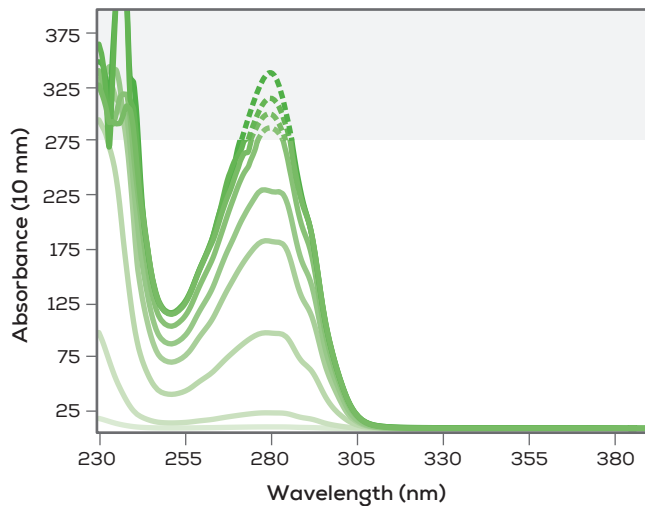
DLS and then some

Stunner pulls rank on other systems because it's way, way more than just DLS. It lets you get a grip on what storage, agitation or a change to your process or formulation does to your protein. See if there's any aggregation, measure the hydrodynamic size, grab polydispersity when you need to check uniformity, and get the exact concentration while you're at it.



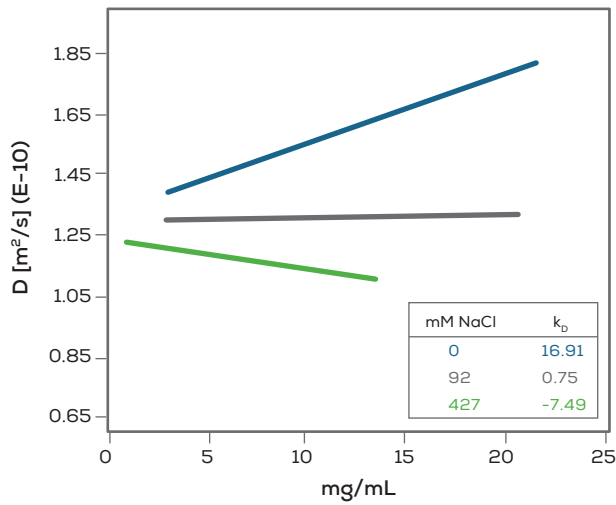
Take quants higher

Load your samples straight and scratch the dilutions. Stunner measures any protein from 0.02 mg/mL to 200 mg/mL. Stunner plates use 2 fixed path lengths for rock-solid precision and a huge dynamic range. It can even take your mAbs all the way up to 250 mg/mL by fitting the shape of their spectra and extrapolating to accurate concentrations.



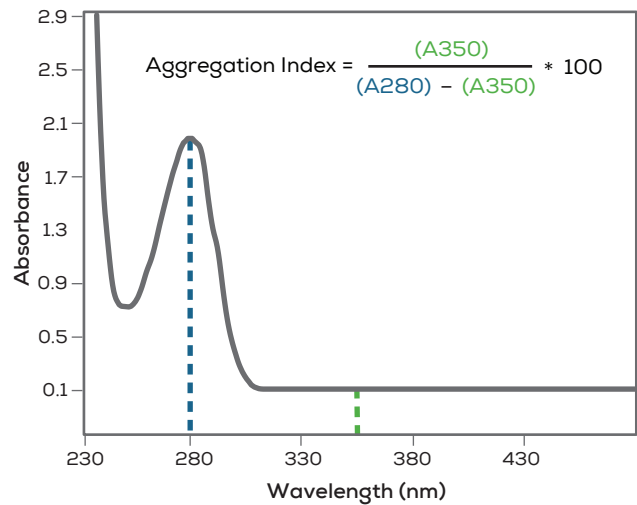
Double down with B_{22} and k_D

On the fly data tells you if your sample's in good shape, or if aggregation is in the cards. Because the concentration of each sample in the series is measured in real time with DLS, you get the most accurate values without breaking a sweat.



Brew your own

Pin down what else is going on with your sample, or just check out its other characteristics. Pick a few wavelengths, a background subtraction method, and create your favorite equation. Stunner's Homebrew tool is wide open, so you can create apps just the way you like them.



Specifications

Instrument	
Sample size	2 μ L
Number of samples	96 per Stunner Plate
Sample run time (concentration)	12 minutes per full plate
Sample run time (concentration + DLS)	1 hour per full plate
Path length	0.1 and 0.7 mm
Physical	37 cm W x 54 cm D x 33 cm H, 26 kg
Electrical	Universal input, voltage 100-240 V AC, 50-60 Hz
Computer	Separate computer with Windows 10 included
Regulatory Compliance	Optional 21CFR31 software package
UV/Vis	
Light source	Xenon flash lamp
Detector	UV/Vis polychromatic spectrophotometer
Wavelength range	230–750 nm
Wavelength accuracy	\leq 0.2 nm
Absorbance precision	0.001 OD (0.7 mm path)
Absorbance accuracy	4% (0.66 OD at 350 nm)
Calibration	Integrated self-calibration
Protein concentration range	0.02–200 mg/mL
Dynamic light scattering	
Hydrodynamic diameter range	0.3–1000 nm
Size accuracy	\pm 2%
Minimum sample concentration	0.1 mg/mL lysozyme
Molecular weight range	100 Da – 25 Mda
Light source	660 nm laser diode
Detection	Avalanche photodiode module



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