

AUNTY



UNCHAINED
LABS

Dominate protein stability

Aunty is the fastest and highest throughput protein stability characterization tool on the planet. Period. With unrivaled fluorescence, static light scattering and dynamic light scattering skills, Aunty blasts through thermal melting and aggregation experiments – reading an entire 96-well plate of samples every minute of a thermal ramp. Sift through piles of candidates, conditions, or formulations, with as many replicates as you want. Aunty cranks out plates of results with unprecedented data resolution, so you can find your winners at breakneck speed.

- Melting temperature: T_m , T_{onset}
- Aggregation: T_{agg} , T_{size}
- Colloidal stability: k_D , B_{22} , G_{22}
- Long term stability
- Viral vector stability

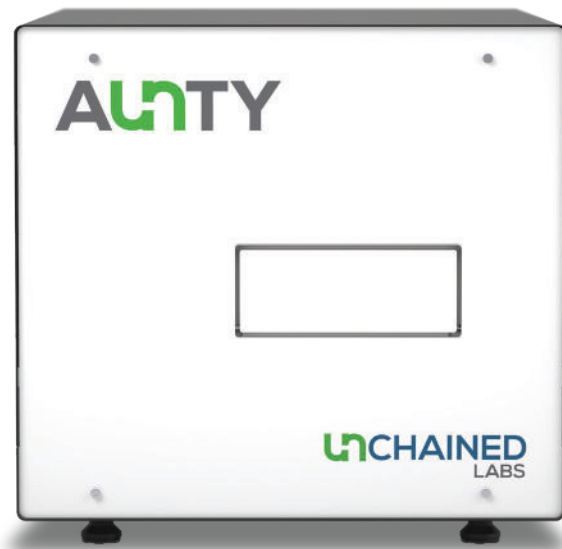
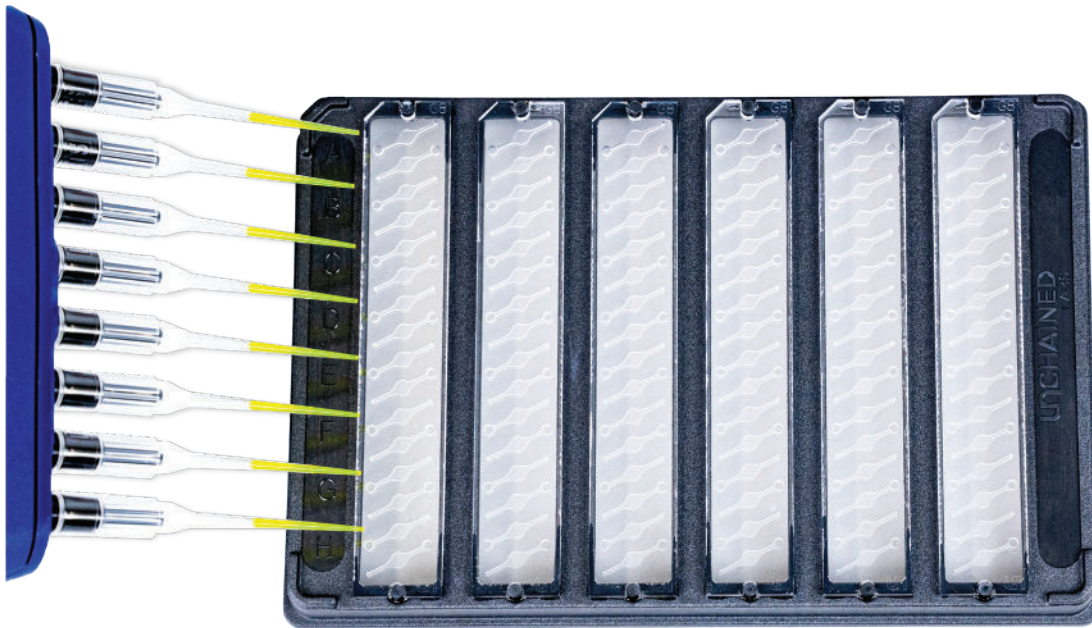


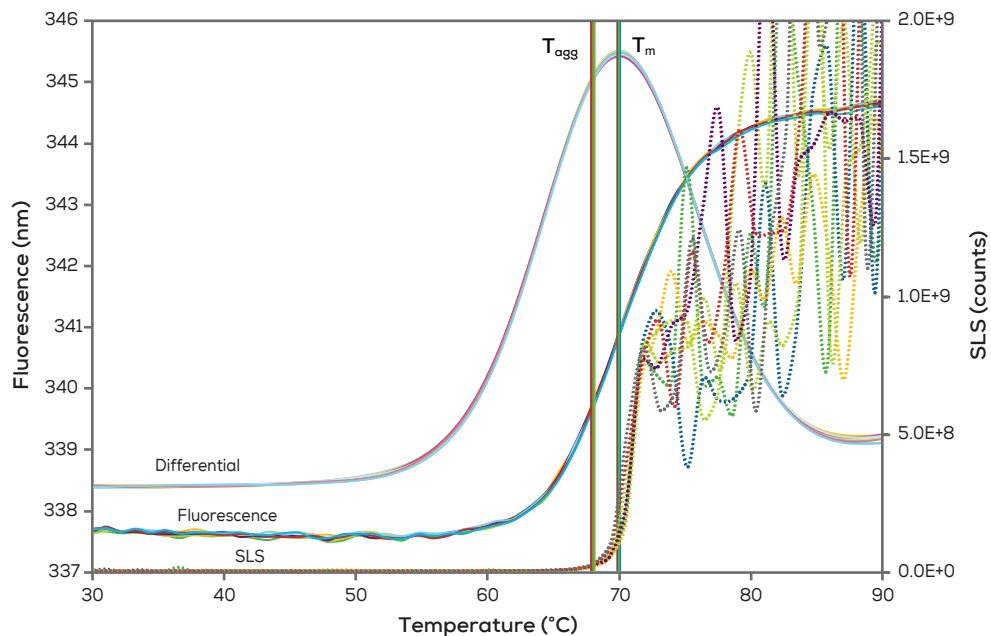
Plate them up

The Aunty plate is the first ever 96-well quartz glass consumable for stability characterization – delivering out-of-this-world optical performance and chemical compatibility with just about any sample. Load up a plate in under a minute and snag stacks of stability experiments faster than sitting through that hour-long meeting that should've been an email. Each well needs just 8 μL and is easily sealed tight, so your sample stays in and contaminants stay out. Prepare to fall in love with your consumable instead of struggling with it – XOXO.



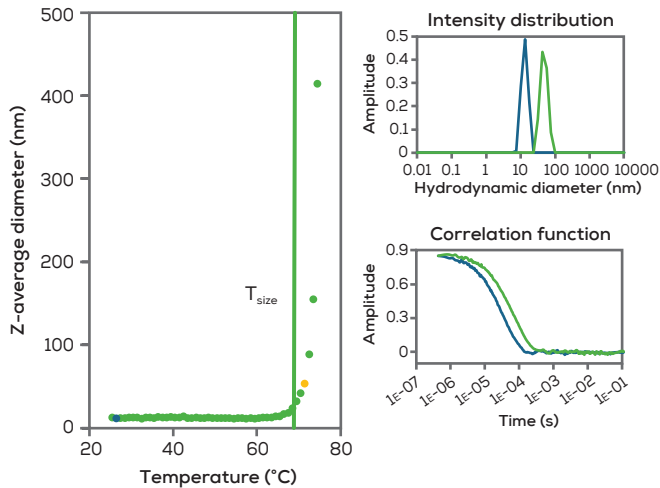
G.O.A.T. data

Aunty sets the bar for protein stability data acquisition times and quality. Its full spectrum fluorescence tracks down protein melting temperatures using either intrinsic fluorescence or reporter dyes, whichever floats your protein's boat. Add on best-in-class light scattering data to make sure you are seeing the whole picture. Aunty's dynamic and static light scattering monitor for aggregation with superior sensitivity, so you see the second it happens and how it relates to protein unfolding events. Collect oodles of data from each measurement mode separately or run them all together – Aunty is the Greatest-Of-All-Time solution for understanding the stability of your protein.



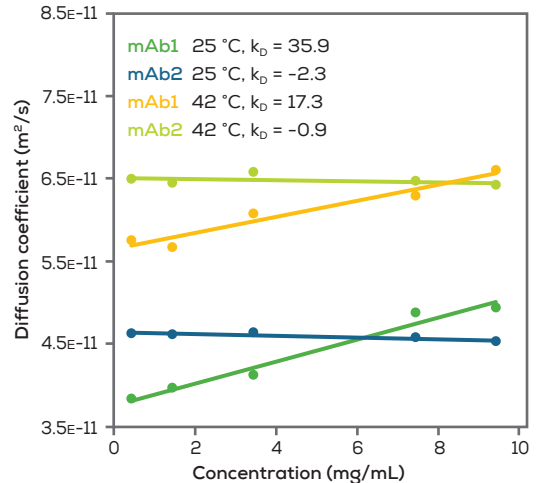
Get eyes on aggregation

Aunty's light scattering makes sure you'll never miss aggregation in your sample. Its showstopping SLS makes for super sensitive, early detection of forming aggregates, while killer ISO compliant DLS keeps tabs on the hydrodynamic size of even the smallest number of aggregates. Aunty monitors both in parallel, so you know if aggregation is already in your prep or if it happens during a thermal ramp experiment.



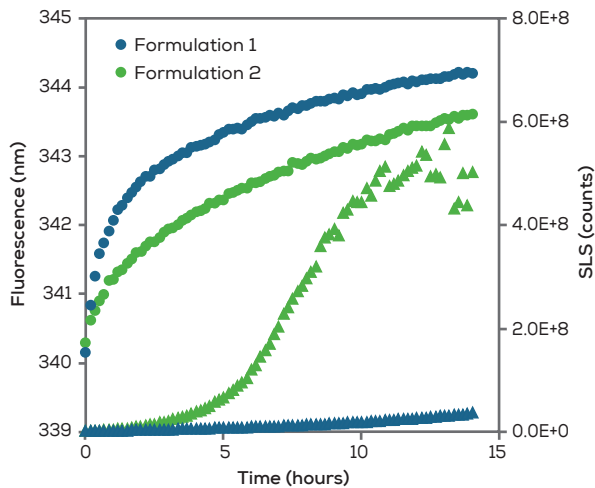
Rip through colloidal stability

Know off the bat if your protein likes its formulation or if there's aggregation on the horizon. Set up your colloidal stability experiment with Aunty and record k_D , B_{22} and G_{22} data all in one go. Go buck wild with testing different conditions since you've got 96 wells to work with. When you're done with that experiment, send it through again at a different temperature just to see if that changes any trends.



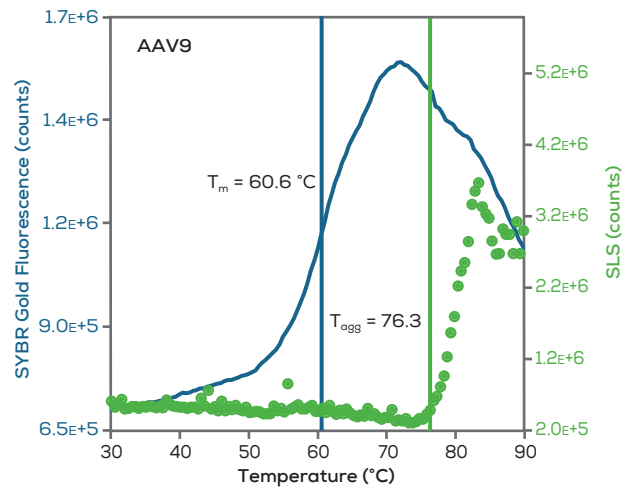
Speed up long-term stability

Old school long-term stability testing is clunky, clumsy and something you'd rather put off. Aunty helps you know if your protein can go the distance, while you still have time to pick a better candidate. Aunty's equipped with apps that let you monitor samples for hours or days while loaded up in the instrument. If you don't want to tie Aunty up, bring them back and forth from an incubator. Either way, your samples are safe and sound in an Aunty plate.



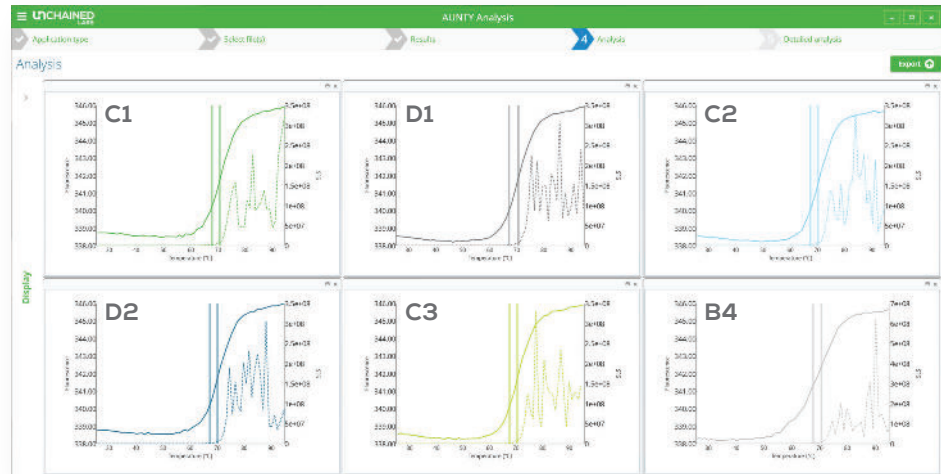
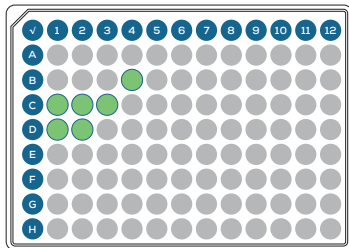
Don't get left empty-handed

Viral vectors are nothing without their payload. But this valuable cargo can sneak out and ruin all the work you put into optimizing the vector in the first place. Aunty's full spectrum fluorescence is uniquely capable of tracking the escape of the genome and the stability of the capsid, so you'll know if your vector is sitting pretty or if your payload is on the lam.



Coast through data analysis

Smash through experimental setup and get to the good stuff – actionable results. In just a few clicks, pick your app, load a sample list and let Aunty set the parameters. If you have a special experiment up your sleeve, you can take control and set all the details yourself. Now hit start and watch your results pour in live. Aunty's software lets you focus on one sample, a few, or plates of them all at once, from multiple experiments, even if they were run on different days. Overlay graphs to compare results, rapidly identify trends and draw the right conclusions in the time it takes to finish your coffee.



Specifications

Instrument	
Sample volume	8 μ L
Simultaneous samples per experiment	96
Time to read a 96-well sample plate	1 min
Temperature range	15–95 °C
Heating rate	0.1–10 °C/min
Temperature accuracy	\pm 0.1 °C
Physical	43 cm W x 59 cm D x 39 cm H; 32 kg
Electrical	Auto switching power supply, 110–240 V AC, 50–60 Hz, single phase; fuse rating (F)5AH, 250 V; max. power 400 W
Fluorescence	
Parameters determined	T_m , T_{onset} , T_m of vector payload ejection, rate of isothermal unfolding
Excitation	280 nm (UV) LED, 470 nm (blue) LED
Detection	Spectrometer at full 250–750 nm spectral range
Compatibility	Protein intrinsic fluorescence Reporter fluorescence (DSF, nucleotide dye, membrane protein dye)
Sample precision	<2% CV (T_m)
Protein sample concentration	0.025–300 mg/ml IgG (protein dependent)
AAV genome concentration	\geq 5 x 10 ¹¹ vg/mL
Light scattering	
Parameters determined	T_{agg} , T_{size} , rate of isothermal aggregation Z-average diameter, size distributions, polydispersity colloidal stability: k_D , B_{22} , G_{22}
Excitation	660 nm (red) laser
Detection	Avalanche photodiode
SLS resolution	\geq 15 kDa change of mean MW
DLS hydrodynamic diameter range	0.3–1000 nm
DLS Size accuracy	\pm 2%
Molecular weight range	192 Da–25 MDa
Minimum sample concentration	SLS: 0.025–300 mg/mL IgG (protein dependent) DLS: \geq 0.1 mg/mL lysozyme



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