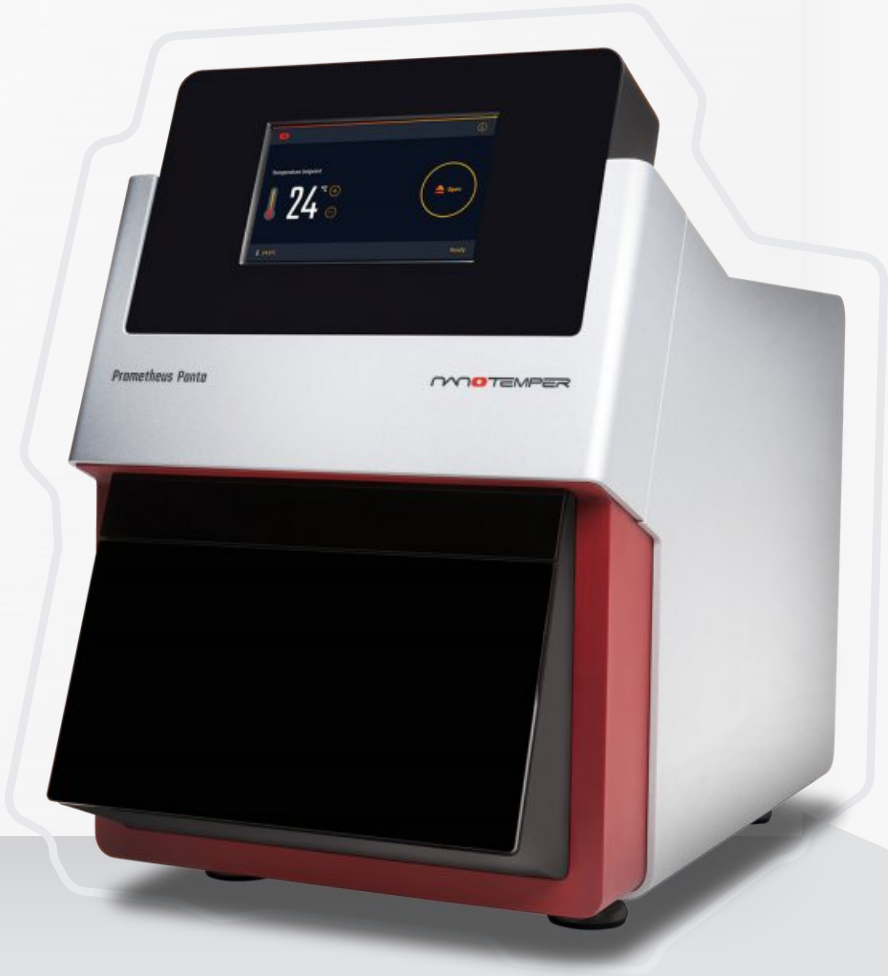
Prometheus Panta

The new gold standard for challenging stability characterizations brings DLS and SLS to your biologics workflow



Whether you're working in biologics formulation optimization, developability, or comparability assessments, count on Prometheus Panta to provide multi-parameter stability characterization and trustworthy results for your candidate molecules.

Collect data on thermal unfolding, particle sizing, and aggregation simultaneously throughout the entire thermal ramp for high-resolution, domain-specific stability characterization of biologics.

Prometheus Panta combines thermal unfolding, particle sizing, and aggregation for superior characterization of candidate molecules

Get high-resolution data that reveals liabilities in drug candidates missed by other technologies

Having the right technology when it really matters — to detect small differences or subtleties in unfolding events — makes a huge difference. Be confident you're passing high-integrity results on to the next team which they can count on when making critical decisions.

Get domain-specific information when you measure thermal unfolding, particle sizing, and aggregation attributes simultaneously throughout the entire thermal ramp

For the first time correlate particle sizing, thermal unfolding, and aggregation results collected throughout an entire thermal ramp — and get a completely new perspective about stability attributes at the domain level of your candidate molecule.

Get an instrument that has flexible throughput and a few choices for sample handling

Handle any project that comes your way no matter if you need to characterize just a few or a few dozen candidate molecules.

Monitor essential attributes throughout your biologics workflow

Your candidate molecules go through a long and complicated journey on their way to becoming a final product. Using the same instrument throughout this process ensures there's consistency when you need to compare conformational and colloidal stability data across teams and sites.

Start multi-parameter characterization early on when candidate molecules are being considered, engineered, or modified, and then continue comparing throughout formulation, production, and validation with Prometheus Panta.

Developability

Determine aggregation propensity

Get self and non-specific interactions

Characterize conformational (thermal) stability

Antibody engineering & stability enhancement

Determine aggregation propensity

Get self and non-specific interactions

Characterize conformational (thermal) stability

Downstream process development

Characterize conformational (thermal) stability and determine aggregation propensity and size distribution during scale-up and optimization of processes

Pre-formulation & formulation

Characterize conformational (thermal) stability

Determine aggregation propensity

Perform buffer and excipient screening and compatibility with melting scans with particle sizing, size distribution, and aggregation propensity

Investigational new drug (IND) & New drug application (NDA)

Determine thermal stability and particle sizing on reconstitution/ dilution/admixing at initial and final time points

Get thermal stability and particle sizing from forced degradation and photostability studies

Comparability assessment

Characterize conformational (thermal) stability including accelerated stress conditions spanning a broad concentration range

Determine particle size distribution

All the parameters you can get from Prometheus Panta

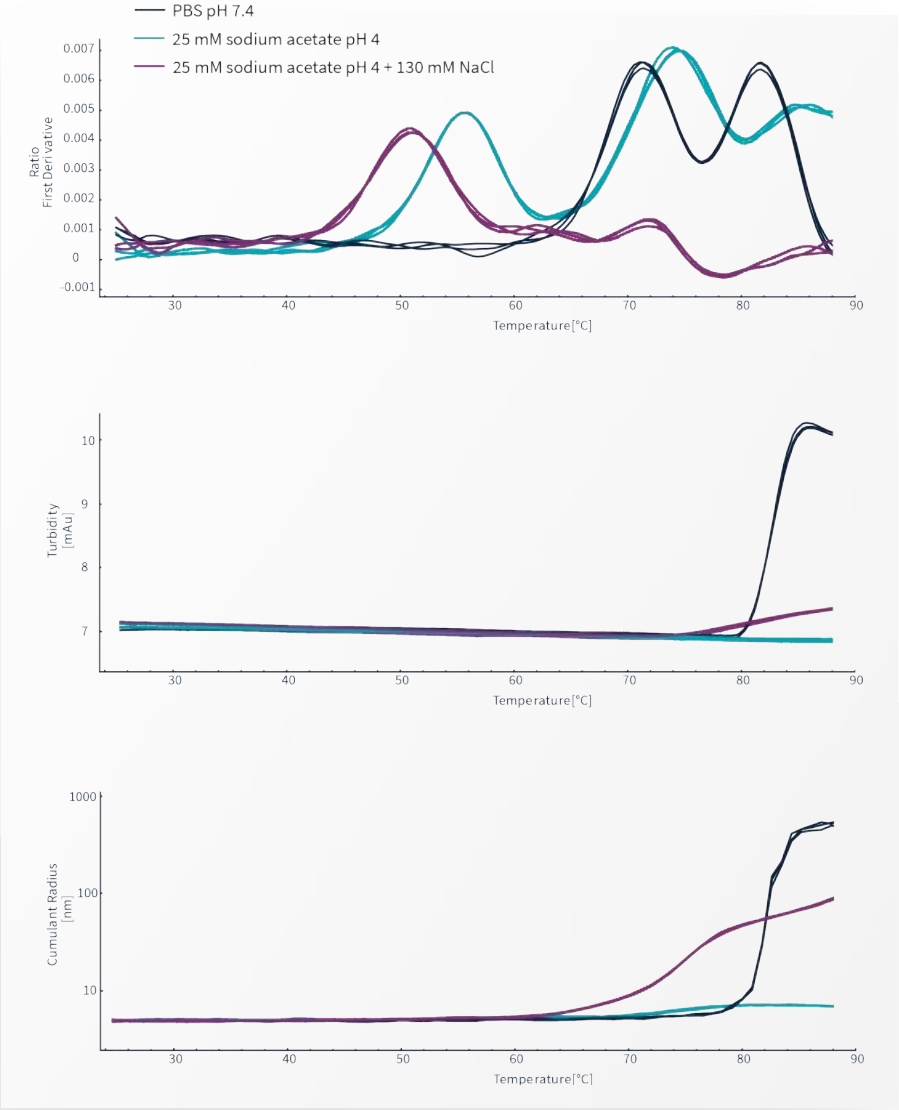
Prometheus Panta automatically reports a thorough profile of your candidate molecule's stability with a complete set of parameters for thermal unfolding, particle sizing, and aggregation. To do this, Prometheus Panta uses nanoDSF, DLS, SLS, and backreflection technologies.

Thermal unfolding using nanoDSF	T_m, T_{onset}, E_a, reversibility of unfolding
Size analysis using DLS	T_{size} , r_H , PDI, k_D, D_0
Aggregation using Backreflection	$T_{turbidity}$
Molecular weight determination using SLS	B_{22}, average molecular weight of particles, $T_{scattering}$, average scattering intensity

Become more efficient with simultaneous measurements. Share clear and actionable results sooner.

Providing clear and actionable results gets more complicated when you need to measure multiple parameters. And, when you're up against deadlines and your colleagues are relying on you for reliable results, it's difficult not to feel under pressure. With Prometheus Panta, become more efficient by measuring multiple parameters simultaneously — T_m, $T_{turbidity}$, and r_H — throughout a single thermal ramp. And, provide your colleagues with clear and actionable stability results sooner.

Identify and differentiate stability behavior with simultaneous acquisition of nanoDSF, backreflection, SLS, and DLS measurements collected throughout the entire thermal ramp for Herceptin in three different buffer conditions.



High performance consumables for consistent results

You don’t have to worry about a long list of consumables to run your stability assays. All you need are capillaries.

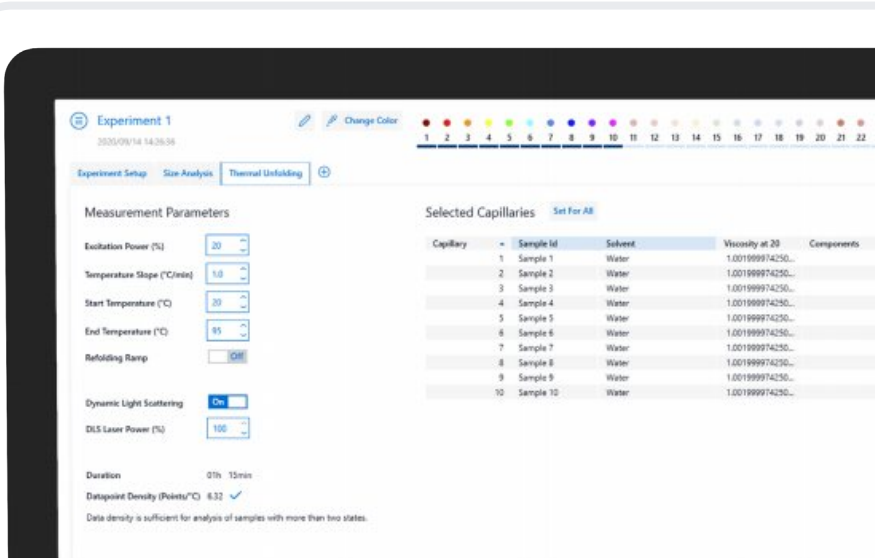
They’re manufactured using the same stringent protocols used for diagnostic-grade capillaries, so you get consistent results.

Choose to load up to 48 individual samples, or use chips of 24 capillaries that make it easy to load your samples from standard 384-well plates.

Software designed to make you more efficient

Panta Control software lets you design experiments that address important questions about your vector’s stability. Get the flexibility to queue up experiments, or adapt your work on-the-fly.

With Panta Anlysis software displays your results with graphs and charts that help you visually interpret your data. Rank the stability parameters that matter most for your vectors, and quickly compare data within experiments.



Prometheus Panta specifications, because you need to make decisions

General Specifications

Sample handling format	Capillaries or capillary chip
Throughput in one run	Up to 48 capillaries or 24 in capillary chip
Sample volume	10 µL
Temperature range	15 - 95 °C (up to 110 °C with High Temperature Upgrade)
Heating rate range	Up to 95 °C: 0.1 - 7 °C/min Above 95 °C: 0.1 - 7 °C/min
Precision of 1 °C/min thermal ramp	± 0.1 °C
Dimensions	35 cm W x 51 cm H x 52 cm D
Weight	35 kg

Details for the techie in your lab

Technology Specifications

nanoDSF

Measurement parameters	Ratio: T_{onset}, T_m, E_a, reversibility of unfolding 330 nm, 350 nm: T_m Excitation: 280 nm
Concentration range	5 µg/mL - 250 mg/mL
Inflection point precision @ 75 °C	± 0.1 °C
Ratio precision/reproducibility	0.008

DLS

Measurement parameters	T_{size}, r_H, PDI, k_D, D_0, reversibility of unfolding
Laser wavelength	405 nm ± 5 nm
Concentration range	0.5 mg/mL for a 15 kDa protein, up to 40% w/v
Size resolution	Down to 0.5 nm

Backreflection

Measurement parameters	$T_{turbidity}$, reversibility of unfolding
Size resolution	Larger than 12.5 nm radius

SLS

Measurement parameters	Molecular weight, B_{22}, $T_{scattering}$, average scattering intensity
Measurement accuracy	≤ 10% molecular weight

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nanotempertech.com/prometheus-for-biologics

omicspartner.com

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