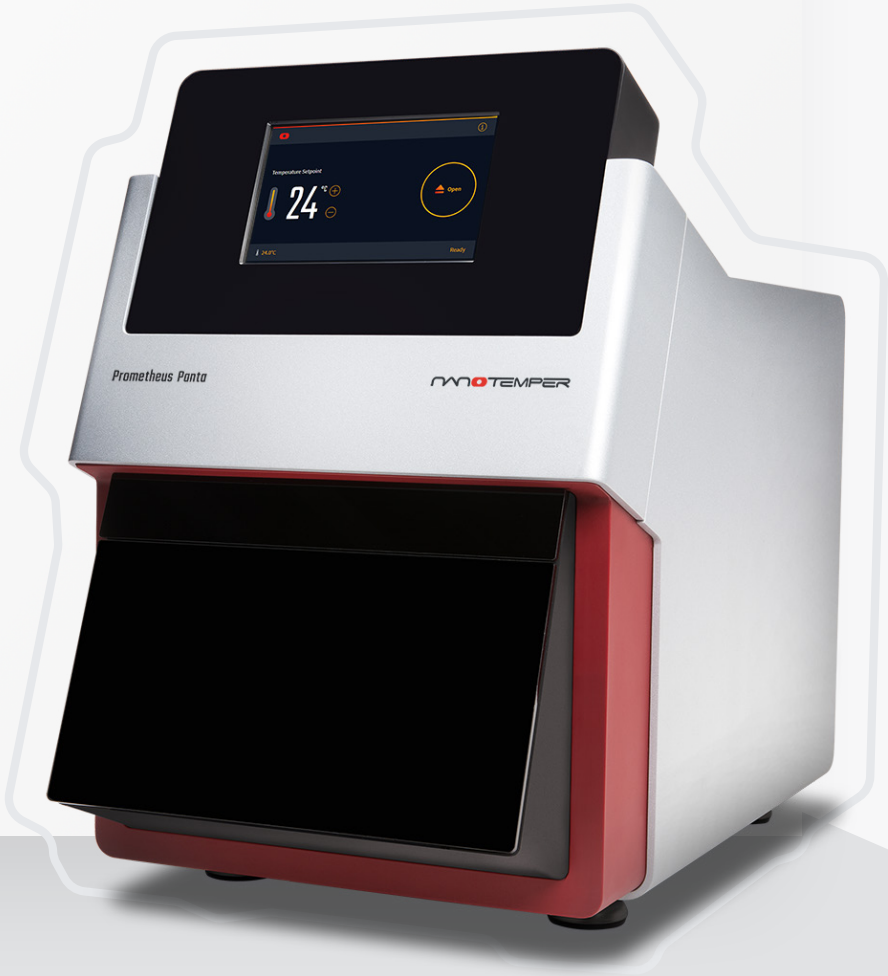
Prometheus Panta

Select the best biologics candidates with high-quality, multi-parameter stability characterization



Prometheus Panta provides the highest quality data on multiple biophysical attributes of your biologics candidates. Collect information on thermal unfolding, particle sizing, and aggregation simultaneously, throughout the entire thermal ramp. Get high-resolution, domain-specific stability characterization. See unprecedented detail that unveils subtle differences between candidates, so you eliminate less stable options earlier in the pipeline.

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

Prometheus Panta provides high-quality data for streamlined candidate selection

Find subtle differences between candidates to narrow down your pipeline more efficiently

When you have thousands of candidates for stability screens, even the subtlest variations between constructs or conditions means the difference between selecting a single, best candidate or conducting further experiments. Prometheus Panta provides stability data with a high degree of resolution and reproducibility, revealing the slightest changes so you select the best candidate for pipeline progression.

Spend time getting answers instead of setting up experiments

Getting started with the Prometheus Panta is pain-free. It requires very little training to get your samples loaded, and the intuitive software interface makes data interpretation straightforward. The high resolution data Panta provides means you spend less time deciphering results and more time drawing conclusions.

Get more stability information out of your biologics samples

Prometheus Panta incorporates four technologies – nanoDSF, backreflection, DLS, and SLS – to give you a complete stability profile of your candidates. And it's the only instrument that collects a DLS profile throughout the entire thermal ramp. A single sample provides colloidal and conformational stability information about all your biologics candidates, so you get more information with less material, and in less time.

Tackle any biologics project that comes your way

Whatever aspect of biologics development you're interested in – antibody engineering, protein-based therapeutic design, formulation, ADC or biosimilar development – Prometheus Panta gives you stability information on all of it. As the questions you address evolve over time, Panta is there to give you reliable stability characterization on all your candidates.

Monitor essential attributes throughout your biologics workflow

With hundreds of candidates or conditions to screen, stability data on your biologics is critical for making good pipeline decisions. Information on how changes to the construct or formulation impacts the stability of your biologic helps you narrow down huge libraries to just a few – or even just one – for further development.

Prometheus Panta provides high resolution, multi-parameter biophysical characterization information. It gives you a thermal stability profile alongside information about aggregation and purity, so you have more data to work with from the same sample.

Antibody engineering & stability enhancement

Characterize conformational stability

Determine aggregation propensity

See how uniform your preps are

Preformulation

Find melting temperature and melting onset of your candidates

Detect large and small aggregates

Determine aggregation propensity

Measure size of particles in solution

Investigational new drug (IND) and biologics license applications (BLA)

Assess changes to thermal stability and particle sizing after reconstitution/dilution/admixing

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

Determine particle size distribution

Developability

Determine aggregation propensity

Measure self- and non-specific interactions

Characterize conformational stability

Formulation

Characterize conformational stability

Determine aggregation propensity

Screen out conditions that destabilize your candidate and cause aggregation

Find excipients that protect your biologic in cold storage

Perform accelerated stability studies

Downstream process development

Characterize thermal stability, determine aggregation propensity, and catch impurities during scale-up and optimization of processes

Compare conformational and colloidal stability profiles between batches

Incorporate stability information into Design of Experiment (DoE) processes

Perform comparability assessments as changes are introduced to the production process

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.

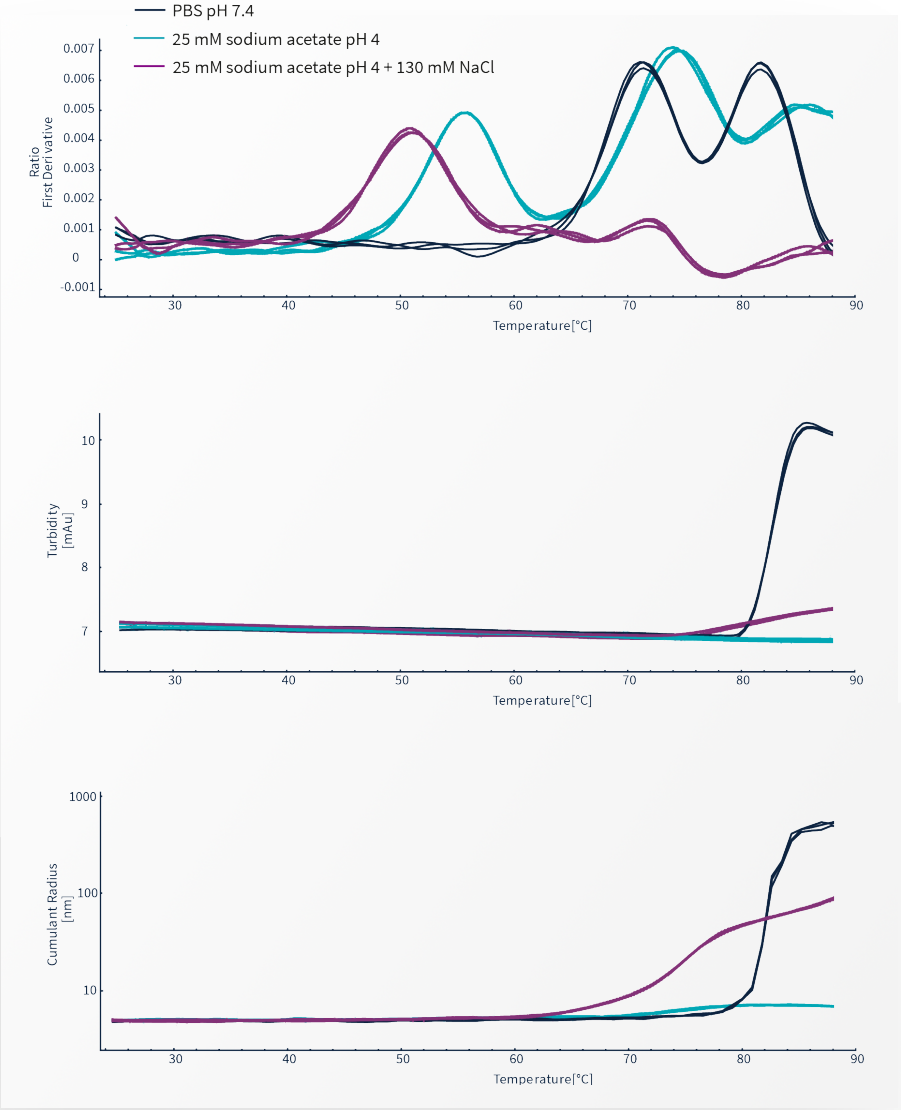
Thermal unfolding using nanoDSF	T_m, T_{onset}, E_a, reversibility of unfolding
Size analysis using DLS	T_{size} , r_H , PDI, k_D, D_0
Aggregation using Backreflection	$T_{turbidity}$
Molecular weight determination using SLS	B_{22}, average molecular weight of particles, $T_{scattering}$, average scattering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

Become more efficient with simultaneous measurements and high-resolution data

With vast libraries of candidates or large formulation screens, it's a challenge to narrow down your selection to just a few best options. Your colleagues downstream rely on you for dependable results. More selection criteria boost confidence in your choice, but reduce efficiency when they require multiple experimental set-ups.

Prometheus Panta increases your efficiency by measuring multiple parameters — T_m, $T_{turbidity}$, PDI, and r_H — simultaneously throughout a single thermal ramp. One sample provides a wealth of information to make more informed decisions about your candidates.

Identify and differentiate stability behavior with simultaneous acquisition of nanoDSF, backreflection, SLS, and DLS parameters 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.

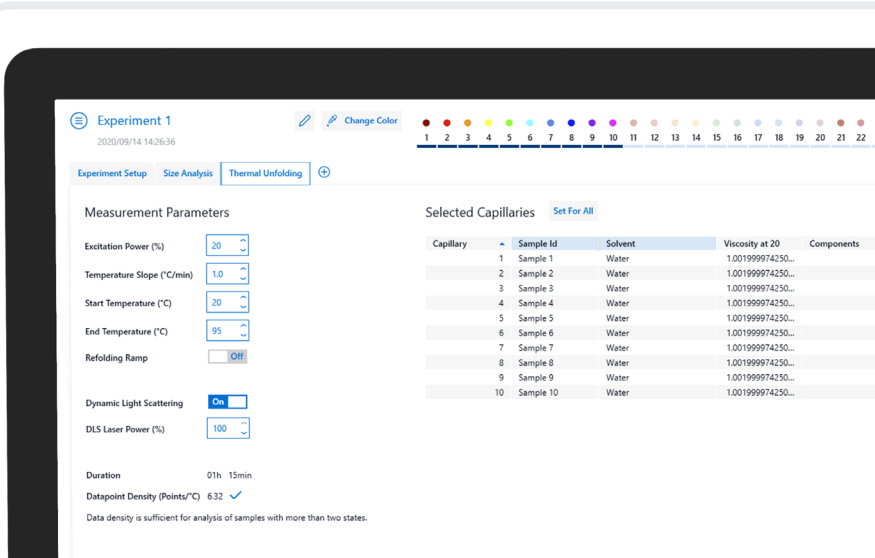
They’re manufactured using the same stringent protocols used for diagnostic-grade capillaries, so you get consistent results.

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 candidate’s stability. Get the flexibility to queue up experiments, or adapt your work on-the-fly.

Panta Analysis software displays your results with graphs and charts that help you interpret your data at a glance. Rank the stability parameters that matter most for your candidates, and quickly draw conclusions about stability improvements.



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	± 0.2 °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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