

When protein stability matters.

Precisely characterize thermal unfolding, chemical denaturation and aggregation with the most flexibility a system has to offer.

MN TEMPER



When flexibility matters.

Little to no experience is needed when it comes to measuring protein stability and protein aggregation on the Prometheus. Each system has a friendly lab footprint and is maintenance-free. The only tough decision is which throughput to choose.

Prometheus NT.48 Workhorse

Test more conditions
with flexible
throughput



Prometheus NT.Plex High throughput

Scale up for
higher throughput



Prometheus NT.Plex plus NT. Robotic Autosampler Hands-off automation

Get fully
automated,
screening
capabilities



Start with the winner.

Take assumptions out of the equation—Get reproducible, quantitative results early on from discovery to validation and production. Use Prometheus to generate precise unfolding temperatures (T_m and T_{onset}), critical denaturant concentrations (C_m), free folding energy (ΔG and $\Delta\Delta G$), and aggregation results (T_{agg}) from start to finish. Be confident about moving forward with the right choice every step of the way.

Measure under native conditions

No need to add a dye or alternate buffer conditions. Run experiments on viscous samples too.

Consume less sample

Requiring as little as 10 μL in volume and 5 $\mu\text{g}/\text{mL}$ in concentration is always a plus.

Prep samples... not

Wouldn't it be great to just quickly load samples and get a result in minutes? No sample prep needed, just load as-is.

Test more conditions

Having flexibility to test multiple parameters in one run makes it easier to get to the end goal sooner.

Get precise results

A high density of data points means better data quality and seeing details missed by other technologies.

Choose any throughput

Run 1, 48 or any number of samples in between and do only what's necessary. Or, automate and do more.

Do more simultaneously

Get T_m , T_{onset} and T_{agg} results all in one run and end up spending time on other things.

Use in regulated environments

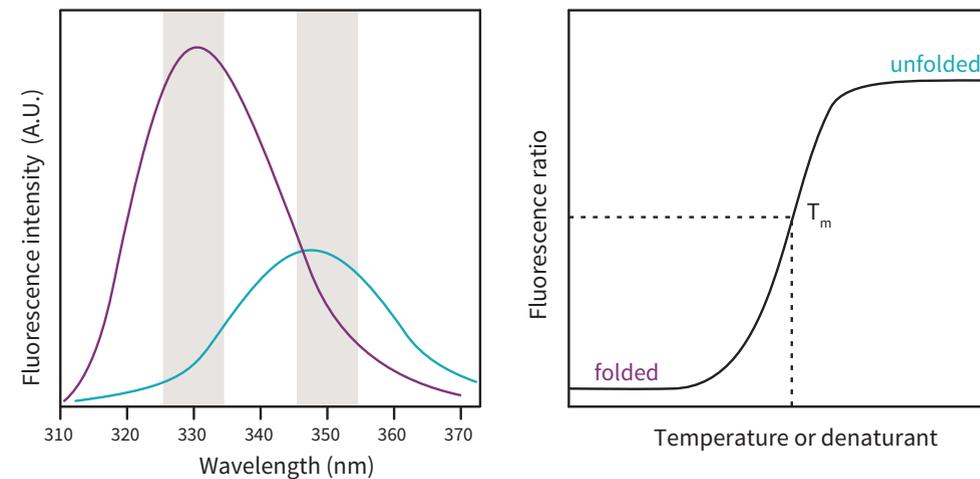
Prometheus comes with 21 CFR Part 11-ready software so feel free to use it wherever whenever.

When precision matters.

Prometheus characterizes thermal and chemical unfolding under native conditions using nanoDSF technology. Absolutely label-free, nanoDSF precisely and accurately measures the intrinsic fluorescence of a protein while it's being subjected to either chemical or thermal denaturation.

nanoDSF uses high quality capillaries for a number of reasons—only microliters of sample are required, a wide range of concentrations are quickly measured in-solution, multiple conditions are assessed in one run, and hard-to-measure viscous samples are examined with ease.

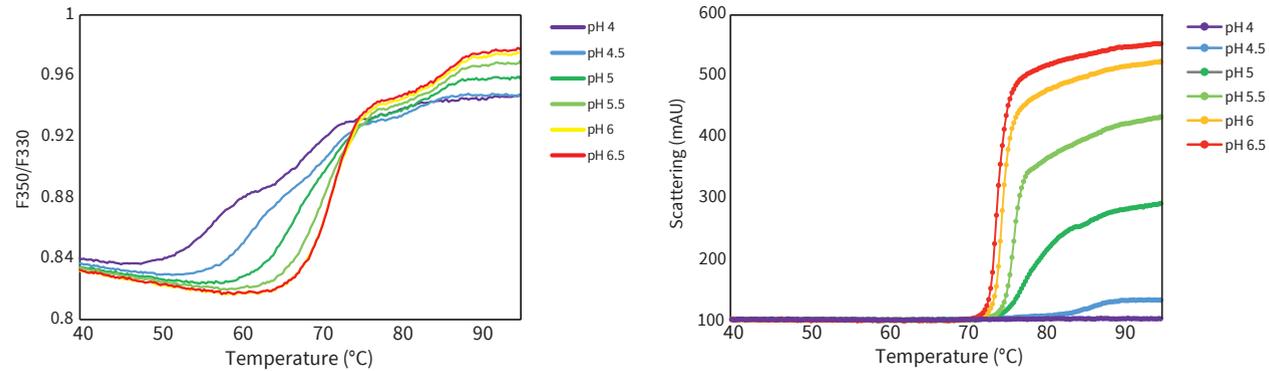
Just dip a capillary into a sample, place it in Prometheus, and hit start to get T_m , T_{onset} and T_{agg} results in minutes. And, if C_m , ΔG and $\Delta\Delta G$ are needed, those can be done too with the same system.



Prometheus monitors the intrinsic fluorescence signal of proteins as a measure of its folding state. A ratiometric measurement of the fluorescent signal is plotted against increasing temperature or concentration of a chemical denaturant to determine the T_m of a protein.

When quality matters.

Prometheus does it best when it comes to characterizing protein unfolding. In both thermal and chemical denaturation studies, even the most subtle unfolding events are easily seen that other traditional systems simply can't detect. Best of all, results are not compromised by aggregates in solution. Get higher quality results and gain the ability to make better decisions.



Effects of pH on the thermal unfolding and aggregation propensity on a mAb target protein

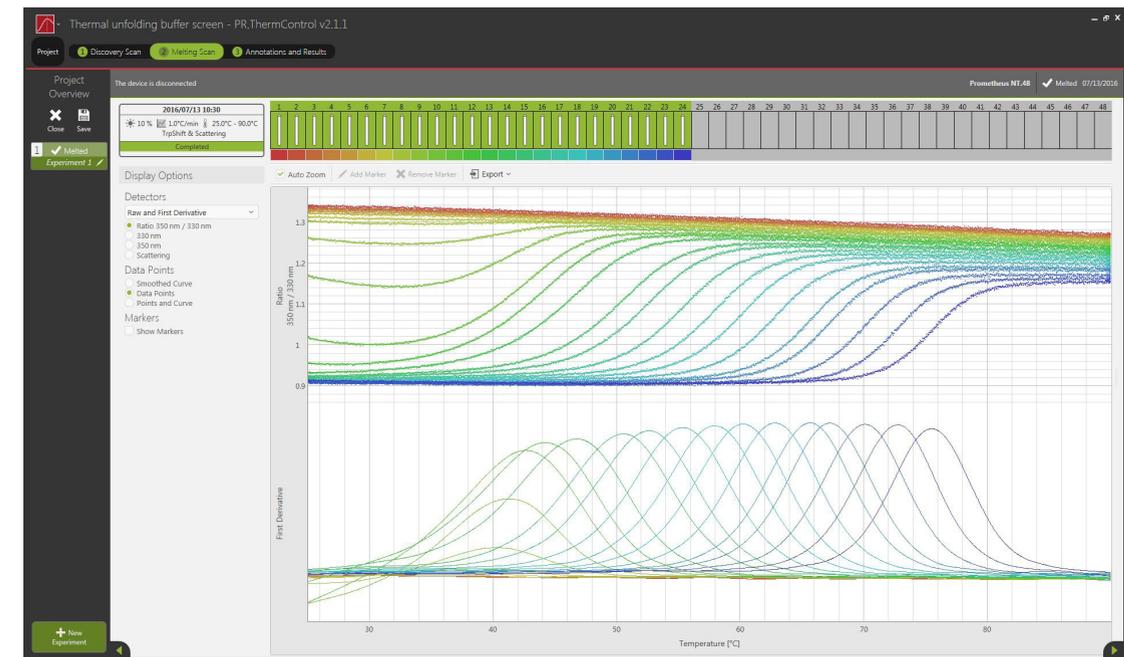
When confidence matters.

Being confident in what to do next is key to doing great research. The formulation development group at Boehringer Ingelheim realized that having accurate, precise and high quality data for both thermal unfolding and aggregation is key to better predicting stability, developability and longer-term storage of their antibody candidates.

Prometheus provides comprehensive results for any type of protein—small or large molecules, biologics, enzymes, antibodies, ADCs and membrane proteins—and is especially good at screening buffer influences or testing formulation and storage conditions. Make better decisions based on more complete stability results.

When guidance matters.

It's so difficult to find a system that's easy to use these days. Prometheus uses PR.ThermControl, PR.ChemControl and PR.TimeControl software, all of which guide researchers step-by-step through each experiment making assays so painless to set up. From the moment samples are loaded, measurement settings are simply optimized and executed. While the experiment is running, quickly name or color code samples, and when it's done, results are instantly calculated. Choose to display the most important data at the end and easily export in one click to share with colleagues. Generating results can't get any easier.



When options matter.

| | NT.48 | NT.Plex |
|---------------------------------------|--|--|
| Samples per run | Up to 48 | Up to 24 manually / Up to 1536 hands-off with NT.Robotic Autosampler |
| Sample volume measured | 10 µL | |
| Detected molecule concentration range | 0.005–250 mg/mL | |
| Experiment time per run | 15–95 minutes | |
| Precision of 1 °C/min thermal ramp | ± 0.2 °C | |
| Temperature control | Temperature range: 15 °C–95 °C (at 25 °C, ± 0.1 °C) Optional upgrade: 15 °C–110 °C (at 25 °C) | |
| Fluorescence detection | 330 nm and 350 nm | |
| Dimensions | 35 cm W x 51 cm H x 52 cm D | |
| Weight | 30 kg | |
| Optional upgrades | Aggregation detection optics | |
| | High temperature upgrade | |
| | NT.Robotic Autosampler | |

Capillaries are available to measure stability of all protein types. Visit nanotempertech.com to see the entire list of consumables.

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