# Plate Reader Technology for Protein Stability Screening

Applied Innovations in Protein Characterisation

Protein Stable

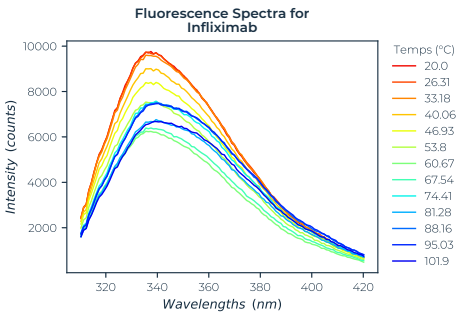
# SUPR-DSF

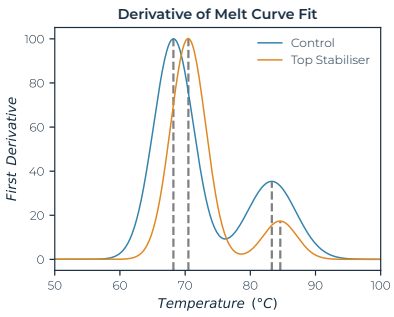
## Technology

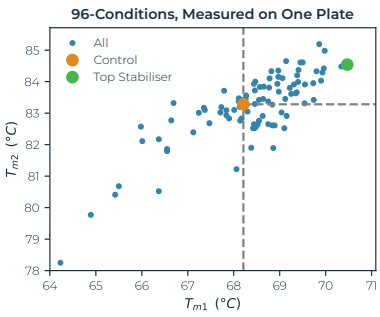
- Intrinsic fluorescence which offers broad compatibility with biological buffers
- UV LED excitation with spectrometer detection for data rich results
- Fast, 384-well plates scanned at 1°C per minute
- Obtain key parameters, Tonset, Tm, number of transitions, ΔH
- Requires no dyes or labels and offers exceptional data quality and repeatability
- Wide dynamic range of sample concentrations
- Very low protein requirement and volumes needed
- Read directly from the plate samples are prepared in
- Orthogonal chemical melt profiling generating ΔG, and Cm analysis
- High throughput thermal ramping stability screening

## Applications

- Variant screening and selection
- Formulation and buffer optimisation
- Protein characterisation
- Stability profiling
- Similarity assessment
- Accelerated stress and forced degradation studies
- Binding induced conformational change analysis
- Post translational modification assessment


Measure Spectra → Determine $T_m$ Values → Screen Candidates

The SUPR-DSF can leverage the natively high capacity of the 384-well PCR microplate to screen hundreds of samples/conditions at a time. Coupled with commercially available screening plates. The SUPR-DSF helps reduce the workload of sample preparation, maueasurement and processing of the thermal denaturation curves. All while working at low sample requirements and with less consumable costs.

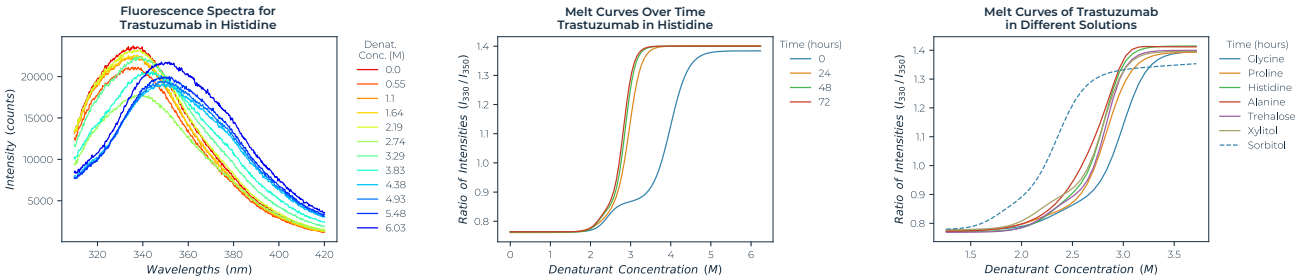
# SUPR-CM

## Technology

- Chemical melt profiling generating ΔG, and Cm analysis
- Intrinsic fluorescence which offers broad compatibility with biological buffers
- UV LED excitation with spectrometer detection for data rich results
- Requires no dyes or labels and offers exceptional data quality and repeatability
- Fast, as little as 2.5 mins for a 384-well plate
- Allows resolution of complex multi-domain unfolding events
- Wide dynamic range of sample concentrations
- Very low protein requirement
- Read directly from the plate samples are prepared in
- Flexible methods ensure equilibrium conditions are reached
- Unlimited analysis of data points for the highest resolution

## Applications

- Formulation and buffer optimisation
- Protein characterisation
- Stability profiling and screening
- Similarity assessment
- Accelerated stress and forced degradation studies




Measure Spectra → Establish Equilibrium → Compare Candidates

The SUPR-CM offers a simple to use solution for running chemical denaturation experiments. Compatible with both 96 and 384-well microplates, the SUPR-CM is a flexible platform. Run chemical denaturation experiments with more denaturant concentrations to improve measurement resolution. Being both plate-based and leveraging intrinsic fluorescence, the SUPR-CM has low sample requirements without compromise on measurement performance.

Protein Stable

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Protein Stable is a joint venture between Applied Photophysics of Leatherhead, UK and Fluorescence Innovations of Minneapolis, MN. Setup in 2019 to introduce customer focused disruptor technology to the protein screening and characterisation market, we apply innovation in protein characterisation to help scientists and researchers across academia and the biotechnology industry. Our focus is on high throughput, low volume methods for protein characterisation for increased productivity, without compromise to data quality. Using novel approaches to optical technology, we have created the ability to read intrinsic protein fluorescence signals during unfolding directly from SBS standard microplates, using limited amounts of protein.

**Working in microplates reduces volume, sample usage, unnecessary consumables and processing steps, whilst seamlessly linking to liquid handling technologies tfor ease-of-use.**