

Label-free compound profiling in live cells with CETSA®. Case studies with cyclin-dependent kinase 4/6 inhibitors.

CETSA® (Cellular Thermal Shift assay) is a well-established label-free technology used to assess protein-ligand binding in live cells. Coupled with mass spectrometry as a protein detection and quantification readout, CETSA® EXPLORE, provides direct detection of compound binding via ligand-induced changes in protein thermal stability in an unbiased proteome wide setting. This technology allows identification of compound primary targets and off-targets as well as downstream secondary affected targets making it ideal for compound selectivity profiling, phenotypic deconvolution and MoA (Mechanism of Action) studies.

For a targeted assay with a specific protein, CETSA® Navigate assesses compound target engagement using either mass spectrometry, western blot or dual detection antibodies for protein detection and quantification, depending on the application needed, for example, target validation, tool finding, hit identification and confirmation.

We will present examples of CETSA® applications in drug discovery for profiling cyclin dependent kinase (CDK) 4/6 inhibitors using the different CETSA® formats.