

Case Studies of uHTS compatible Detection Formats for Kinase Assays.

Abstract

As part of our internal drug discovery efforts at Scripps Florida and also in conjunction with our participation in the NIH's Molecular Libraries Screening Center Network (MLSCN), we have evaluated a variety of assay formats for kinases based on assay sensitivity, ease of application and economy. Three in-vitro enzymatic kinase assays were developed, miniaturized and implemented on a fully automated robotic screening system in 1536-well format utilizing three separate detection formats, from three different vendors. Of the three assays, one involves luminescence detection and the other two are based on time resolved fluorescence. All assays were found to be readily amenable to miniaturization and screening with reproducible results. However, the differences in detection specific to maintaining screening sensitivity for substrate and or ATP inhibitors/competitors can alter ones choice of detection. Case studies of the different formats will be presented.

Resume

Timothy Spicer joined Scripps early on at its onset in Jupiter Florida and has been working as an assay implementation scientist for two years. Prior to that he was employed at Bristol-Myers Squibb Co. located in Wallingford, Connecticut for nine years as a Research Scientist in the Department of Lead Discovery and Profiling. He also worked in the Discovery Technologies department as well as Infectious Diseases Department at BMS. Timothy received his educational training at the SUNY Health Science Center at Syracuse, New York. He has authored multiple publications and patents germane to his area of research. Timothy works across multiple organizations and departments as part of a team that implements assays and supports screening on fully automated platforms. He has experience developing GPCR, kinase, protease, nuclear receptor, and/or ion channel assays in a variety of HTS-compatible formats (for example, reporter-gene, TR-FRET, HTRF, fluorescence, luminescence, and absorbance). He is recognized at Scripps and by collaborators as a leader in evaluating new assay technologies for the purpose of making UHTS the standard