

Dr. Michele Palmer  
Director of Pharmaceutical Services  
Tropix PE Biosystems  
Bedford, MA

#### Novel Functional Cell Based Assays for Accelerated Drug Discovery

Abnormalities in the complex series of biochemical reactions and interactions that transduce extracellular signals to the cytoplasm and ultimately to the nucleus have been linked to many forms of human disease. The ability to dissect the network of protein/protein interactions and monitor the precise effect of a modulator on signaling in living cells provides significant advantages in early drug discovery. Two new assay technologies will be described.

Xpress Screen provides sensitive quantitation (0.017 attomoles) of a specific mRNA in cellular lysates. This assay has been optimized for use in high throughput applications. This technology will be used to analyze the regulation of the immediate early gene *cfos* in mammalian cellular assays.

Intercistronic Complementation Analysis Screening Technology (ICAST) provides a mammalian cell based system in which these protein/protein interactions can be monitored in the physiologically relevant compartment. This technology has been applied to the analysis of functional receptor binding and cytosolic protein interactions that act in signal transduction. The use of these live cell assays in lead discovery will be described.