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Development of Degradation Resistant Peptide Based Biosensors for the Selective Measurement of Kinase Activity

New degradation-resistant peptide biosensors offer highly sensitive and selective monitoring of kinase activity, improving drug discovery and therapeutic identification.

Researchers at Purdue University have developed new degradation resistant peptide biosensors for selective measurement of kinase activity. Kinases are enzymes that regulate many vital processes in the human body and that, when dysregulated, are involved in cancer and other disease processes. Measuring kinase activity is an important aspect of identifying potential therapies. Traditionally, endogenous protein substrates are used to measure kinase activity, but these traditional assays suffer from a small dynamic range. To better probe kinase activity, the Purdue researchers created sensitive and selective peptide-based biosensors to detect activity in Abl and Src kinases. The biosensors are designed to interact with the kinase of interest and optimized for use in living cells. Using this technology, the Purdue researchers detected activity of the Bcr-Abl kinase and its inhibition by imatinib in the K562 human chronic myelogenous leukemia cell line via mass spectrometry.

Potential Applications:

-Monitoring Kinase Activity

-Biochemical/Biological Sciences Research

-Drug Discovery

Advantages:

-Degradation Resistant

-Highly Sensitive

-Excellent Selectivity

Technology ID

2014-PARK-66869

Category

Pharmaceuticals/Drug Discovery & Development

Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

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-Higher Dynamic Range

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Intellectual Property:

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