

Partnering Today: Technology Transfer Highlights

MEDICAL DIAGNOSTICS KITS

Abbott Labs (Vysis): Enabling Faster Detection and Customized Treatment

THE LLNL TECHNOLOGY

Staining of human chromosomes to evaluate and manage certain genetic diseases, potentially allowing treatment customized to each patient's specific needs. LLNL's use of flow cytometry to identify and sort chromosomes and later development of chromosome painting have revolutionized cytogenetics (the study of chromosomes) and its application to human exposure and disease.

COMPANY

Vysis, Inc., a subsidiary of Abbott and the exclusive licensee of LLNL's chromosome painting technology. Vysis is part of Abbott's molecular diagnostics business (Abbott Molecular), based in Des Plaines, Illinois. Abbott Molecular is an emerging leader in molecular diagnostics – the analysis of DNA, RNA and proteins at the molecular level. Abbott Molecular's instruments and tests provide physicians with critical information based on the early detection of pathogens and subtle, but key changes in patients' genes and chromosomes. These products help physicians diagnose disease and infections earlier, select appropriate therapies and monitor disease progression. Vysis, initially a start-up known as Imagenetics Incorporated in 1991 as a division of Amoco Technology Company, was purchased in 2001 by Abbott.

PRODUCT

Abbott's portfolio of Vysis products include innovative genomic tests for chromosome changes associated with congenital disorders and cancer, including the PathVysion® Therapy, and UroVysion™, which detects genetic changes in bladder cells for aiding in the diagnosis of bladder cancer in patients with hematuria (blood in the urine) and for monitoring bladder cancer recurrence.

IMPACT

Vysis products are based on advanced fluorescence in situ hybridization (FISH) technology, which allows clinicians to diagnose disease and medical conditions more quickly and accurately than with some of the traditional methods. For example, the FISH-based test PathVysion makes HER-2 genes in the cell fluorescent. They light up making them easier to count more accurately. Targeted breast cancer treatments to fit a woman's genetic profile are made possible by this kind of precise diagnostic.

