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The OncoScan™ platform for analysis of copy number and somatic mutations in cancer

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Abstract

OncoScan™ FFPE Express 2.0 Service is currently available from Affymetrix Inc. for whole genome copy number profiling of tumors using low inputs of starting material from highly degraded FFPE samples. OncoScan FFPE Express 2.0 Service has been successfully used by more than 30 leading cancer research institutes, including M. D. Anderson Cancer Center, University of California San Francisco, and the Huntsman Cancer Institute at the University of Utah. The OncoScan™ assay utilizes the Molecular Inversion Probe (MIP) assay technology, which was originally developed for SNP genotyping and has subsequently been used for identifying other types of genetic variation including focal insertions and deletions, larger copy number alterations, loss of heterozygosity (LOH), and most recently, for somatic mutation detection. This assay has been shown over time to perform well with highly degraded DNA, such as that from FFPE-preserved tumor samples of various ages, and with <100ng DNA of starting material - making the assay a natural choice in cancer clinical research. To-date, the OncoScan FFPE Express 2.0 Service has enabled new discoveries and a deeper understanding of the molecular basis of cancer and the various sub-types of the disease with the potential for more accurate disease diagnosis, prognosis and new therapeutic intervention. A next generation OncoScan FFPE Kit will be available in late 2013, enabling researchers to perform the assay and analysis in their own lab.