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Abstract

“Development of Analytical Assays for Multiplex Interrogation of Nucleic Acid Targets”

Measuring gene expression levels and evaluating the genotypes of biological samples has allowed researchers to accumulate a vast collection of genomics information associated with, but not limited to, phenotypic traits, basic cellular processes, regulatory pathways, pathogens, diseases, and cancer. Based on the accumulated data and active research, scientists are rapidly identifying genomic signatures consisting of dozens to hundreds of targets (mid-plex) that can be used for high-throughput testing / screening of samples. Moreover, and relevant to human molecular signatures, personalized genomics and predictive medicine can be further defined by interrogating several types of nucleic acids, *e.g.*, mRNA, miRNA, and single nucleotide polymorphisms (SNPs). In order to facilitate these broad and dynamic research activities Luminex has developed an affordable, bead-based mid-plex genomics product portfolio consisting of sequence detection, gene expression, and genotyping assay technologies. A variety of chemistries is employed, including ligation-dependent amplification, nuclease protection, or multiplex PCR. The developed assay performance specifications and applications will be presented and described.

Biography

Dr. Sekinger is a Senior Research Scientist in the Life Sciences Division at Luminex Corporation. Previously, he held Senior Research Scientist positions at Ambion, Inc. and Asuragen, Inc., and has over 10 years of experience in assay ideation and feasibility research. Dr. Sekinger is currently developing new chemistries for gene expression and genotyping assays at Luminex.

Dr. Sekinger received his Ph.D. in Molecular Biology and Biochemistry from Louisiana State University Medical School under the mentorship of Dr. David Gross. His studies focused on eukaryotic chromatin and transcriptional regulation. He extended his graduate studies with a Postdoctoral Fellowship in the laboratory of Dr. Kevin Struhl at Harvard Medical School in the Department of Biological Chemistry and Molecular Pharmacology where he advanced his training in chromatin and promoter regulation of gene expression.