

Cellecta, Inc. Introduces CloneTracker XP™ Expressed Lentiviral Barcode Libraries and CloneTracker XP™ Barcoded CRISPR Libraries

Label individual cells with uniquely identifiable, expressed barcodes to understand how different experimental conditions affect distinct groups of cells from a common progenitor.

MOUNTAIN VIEW—(PR Newswire)—October 9, 2018—Cellecta, Inc. today introduced the CloneTracker XP™ Expressed Lentiviral Barcode Library and CloneTracker XP™ Barcoded CRISPR Library product lines. The ability to label and trace individual cells is a powerful experimental tool in many research areas including cell development and evolution, stem cell biology or carcinogenesis. Cellecta's new expressed barcode libraries, together with next-generation sequencing (NGS) technology, enable a new approach for tracking clonal variations in large cell populations.

The new CloneTracker XP Barcode Libraries differ from Cellecta's standard CloneTracker Barcode Library in that the unique DNA sequence (i.e., the barcode) is designed to express on an RNA transcript in the cells. As a result, it can be detected by either DNA or RNA sequencing. Researchers can use these ready-to-use expressed barcoding libraries to label several million cells each with a unique barcode, and subsequently perform NGS to sort out sub-populations of progeny cells derived from the original progenitors at any point during their experiment. The approach provides a convenient way to identify cell variations with unique characteristics or biology, and to understand how these groups of variant cells evolve in response to drug treatment, tumor metastasis, or other conditions.

"We are pleased to offer the research community the first commercial libraries that can label large cell populations with cell-specific barcodes detectable in both genomic DNA and expressed RNA cell fractions," said Alex Chenchik, Ph.D., president and chief scientific officer of Cellecta. "While our standard CloneTracker barcode library can be used to track the evolution of progeny from each cell in the population, these new libraries with expressed barcodes, used in combination with single-cell RNA sequencing, allow researchers to identify which genes are actually activated or shut down in different groups of cells so that, depending on the experiment, they can identify which genes are important for drug resistance, metastasis, cell differentiation, or other processes."

Additionally, a variation of the new CloneTracker XP barcode labeling product that Cellecta now offers introduces a gene effector, in this case CRISPR sgRNA, into the barcode library. Each effector targets and disrupts a specific gene in each of the cells that pick up a barcode. In combination with cell-specific barcode tracking, this gene disruption (or "knockout"), enables researchers to see how particular genetic disruptions change the characteristics of the cells, while simultaneously also identifying the genetic pathways that are activated to produce them. Cellecta now offers two small, pre-made CloneTracker XP Barcoded CRISPR knockout libraries targeting 27 human and mouse anti-cancer genes, as well as custom library development services for CloneTracker XP Barcoded CRISPR Libraries.

The CloneTracker XP Expressed Barcode libraries are available with barcodes expressed in the 3'- or 5'-UTR of an RNA transcript, and with fluorescent or chemiluminescent reporters.

A list of CloneTracker XP™ Expressed Lentiviral Barcode Library formats, as well as examples of relevant applications are available at www.cellecta.com/clonetracker-xp

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About Cellecta:

Cellecta, Inc., a trusted provider of genomic products and services, is an industry leader in RNAi and CRISPR technologies for the discovery and characterization of novel therapeutic targets, in barcoding technologies, and genetic profiling for biomarker discovery. Numerous scientific papers have been published citing Cellecta's functional genomics portfolio offering gene knockout and knockdown screens, custom and genome-wide RNAi and CRISPR libraries, cell engineering, RNAi and CRISPR construct services, and mutation and expression profiling of disease samples.

Cellecta, Inc. is headquartered in Mountain View, California. Information about the company and its functional genomic products and services may be found online at www.cellecta.com

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