Agilent SureSelect CD CiberMed Heme and Heme+HiRes (Control) Panels

Designs by experts, available to the community

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"SureSelect panels improve the accuracy and robustness of cellular profiling with iSort digital cytometry."

Targeted next-generation sequencing enhances blood cellular profiling

Agilent Community Designs (CD) for targeted next-generation sequencing (NGS) are developed in collaboration with subject matter experts in different research fields. These NGS designs are available in the Agilent SureDesign web tool as custom, made-to-order panels that provide you with robust and cost-effective sequencing results that focus on your genes or regions of interest.

CiberMed aims to simplify cellular profiling and biomarker discovery from bulk samples through their novel digital cytometry approach. This technology reliably determines both cell type proportions and gene expression from RNA sequencing (RNA-Seq) data without the need for assessment of large single-cell data sets[1,2]. Optimized Agilent SureSelect NGS panels combined with the proprietary iSort software enables robust deconvolution of cell subsets from bulk RNA-Seq data.

CiberMed's iSort software has been trained and validated on 22 human hematopoietic cell subsets ("LM22- Leukocyte gene signature Matrix") to enable comprehensive immune profiling from both healthy and diseased blood samples[1].

When partnered with the Agilent SureSelect CD CiberMed Heme and SureSelect CD CiberMed Heme + HiRes target enrichment panels, the iSort software offers a cellular profiling solution with the enhanced sensitivity, accuracy, and robustness of cell profiling via digital cytometry.

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Features of the SureSelect CD CiberMed Heme panel design

- Comprised of 547 genes in the LM22 signature matrix
- Has a 1.8 Mb footprint
- Compatible with Illumina chemistry (2x150 bp recommended)
- Used with SureSelect XT HS2 RNA reagent kit
- Compatible with the Agilent Bravo NGS workstation for high-throughput processing
- Integrates seamlessly with CiberMed's iSort Fractions software

Features of the SureSelect CD CiberMed Heme + HiRes panel design

- Comprised of 685 genes
- Has a 2.4 Mb footprint
- Compatible with Illumina chemistry (2x150 bp recommended)
- Used with the SureSelect XT HS2 RNA reagent kit
- Compatible with the Agilent Bravo NGS workstation for high-throughput processing
- Integrates seamlessly with CiberMed's iSort High Res software

Advantages of targeted NGS for blood cellular profiling

Pairing targeted RNA-Seq panels with CiberMed's iSort and iSort HiRes software offers several key advantages compared to whole-transcriptome profiling:

- Reduced sequencing cost
- Scalable to higher throughput experiments
- Enhanced accuracy, sensitivity, and robustness of the deconvolved cell types

Table 1. Ordering information for SureSelect CD CiberMed Heme and Heme+HiRes panels.
Note: Part numbers cover the capture probe libraries only. Library preparation and target enrichment kits must be purchased separately.

Product	Part number
SureSelect CD CiberMed Heme 16	5282-0098
SureSelect CD CiberMed Heme 96	5282-0099
SureSelect CD CiberMed Heme 96A	5282-0100
SureSelect CD CiberMed Heme+HiRes 16	5282-0101
SureSelect CD CiberMed Heme+HiRes 96	5282-0102
SureSelect CD CiberMed Heme+HiRes 96A	5282-0103

References

1. Newman, A.M., et al. Robust enumeration of cell subsets from tissue expression profiles. *Nat Methods* **12** (5), 453–457 (2015). https://pubmed.ncbi.nlm.nih.gov/25822800/
2. Newman, A.M., et al. Determining cell type abundance and expression from bulk tissues with digital cytometry. *Nat Biotechnology* **37** (7), 773–782 (2019). https://pubmed.ncbi.nlm.nih.gov/31061481/

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