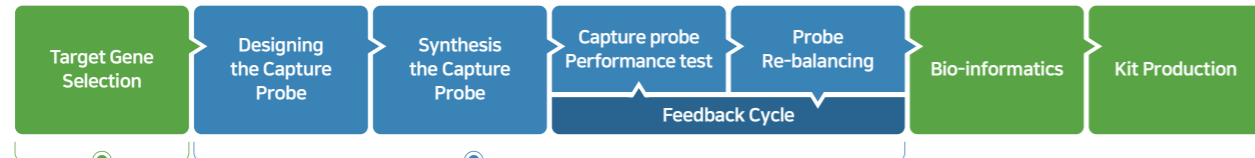


NGS Custom Panel

Description

CELEMICS has developed and delivered over 500 different customized panels. Our target enrichment method is capable of specifically isolating your genomic loci of interest out of the whole genome and increasing the sensitivity of detecting genetic mutations by producing higher coverage & in-depth sequencing data.

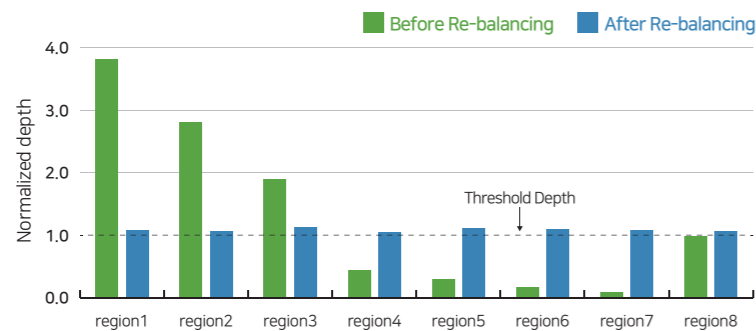
Panel Manufacturing Process



Extensive know-how, delivered over 500 different customized panels. Celemics accumulates and actual capture data of each different customized panel, which results in most sophisticated probe design algorithm.

- **Wide compatibility for various sequencers**
Illumina, Ion Torrent, Pacific Bioscience, MGISeq
- **Pre-performance validation data**
Guarantees of performance through pre-performance validation before product shipment for every single customerized pannel
- **Proprietary Re-balancing technology for the highest uniformity and coverage**
Enabling reliable and sensitive detection of mutation with high sensitivity

Pilot Test & Panel Rebalancing



Before Re-balancing

- Inaccurate interpretation and wrong diagnosis
- High coverage regions dominate average coverage, and low coverage regions are rarely captured

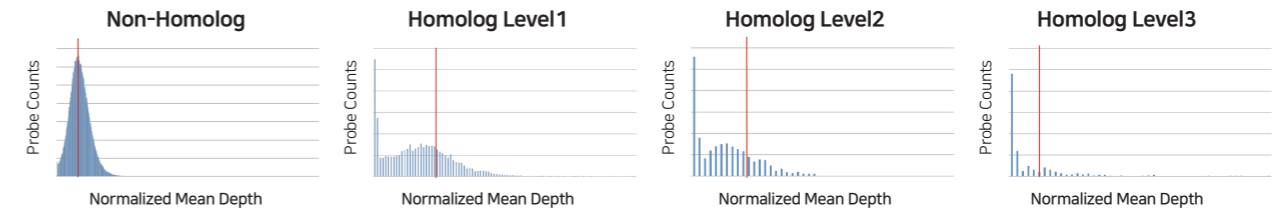
After Re-balancing

- Probes re-balanced
- Enabling large deletion, gene rearrangement detection for more kinds of mutations

Custom Panel List (Example)

Category 1	Category 2
Oncology	Solid Tumor
	Blood Cancer
	Liquid Biopsy(ctDNA)
Immunology	
	Hereditary Cancer
	Cardiology
	Neurology
	Metabolic Disease
Inherited Disease	Pharmacogenomics
	Skin Disease
	Hearing Loss
	Ophthalmology
	Rare Disease

Custom Panel Design of Celemics for Homolog Regions



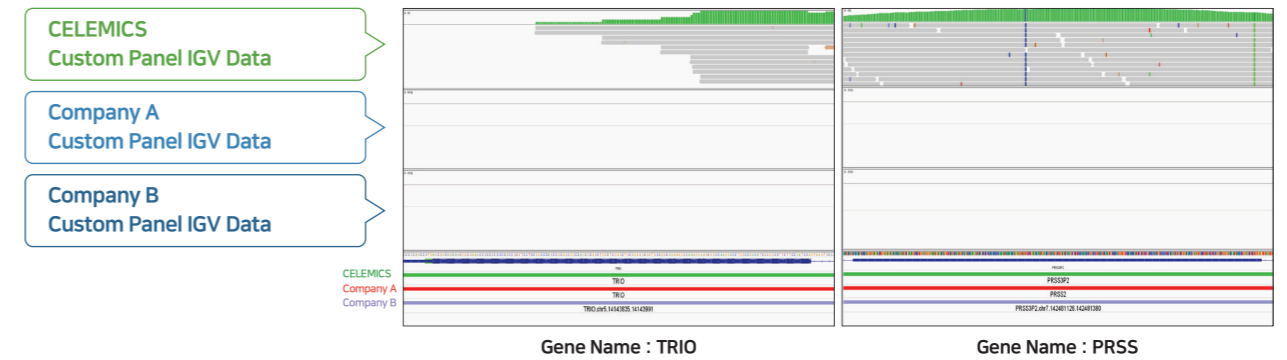
The more you go to the right, the more Homolog areas you have.

The red line is Mean depth, lower values indicate that each probe coverage performance is degraded. As the homolog level increases, the depth of coverage of each probe tends to decrease.

Supports extensive informations on homolog regions for target region

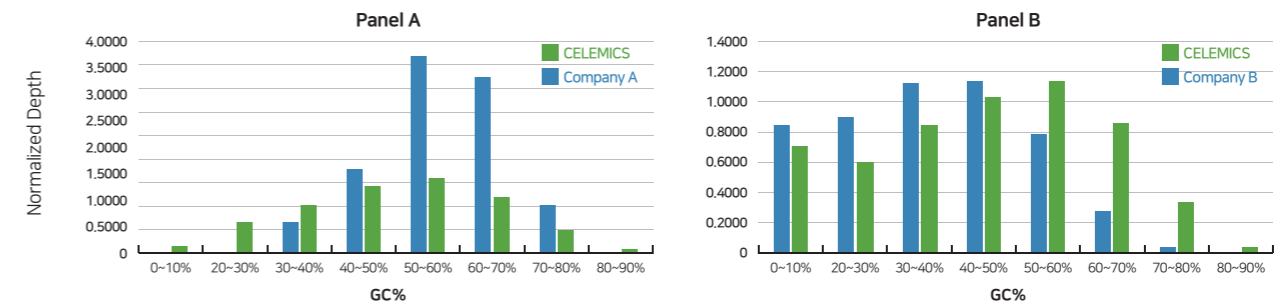
Customer can choose to include in their target BED

Other Company's Targeted Custom Panel IGV Data for Homolog Region



Celemics panels provide data from clinically important regions including where there are overlaps in homology regions.

Sequencing Performance of CELEMICS Panel for GC-rich Region



Comparing the performance of Custom Panels based on the same bed area, for AT-rich Region and CG-rich Region, it shows higher depth and higher uniformity.