GD-Seq

Total Sequencing Solutions
GD-Seq

Repetitive Element Genome Depletion Sequencing (GD-Seq) is the newest product offering from RAPiD Genomics. By incorporating novel improvements to whole-genome sequencing technology, GD-Seq is the ideal alternative to traditional untargeted sequencing applications.

GD-Seq depletes repetitive elements of the genome to produce datasets with improved sequencing of lower copy number, and more informative, regions when compared to whole-genome sequencing. Using equivalent sequencing efforts, GD-Seq is up to 500% more effective while still recovering up to 90% of all known exons (maize).

For commercial applications, GD-Seq can be used to “skim” the genome at shallow depth, identifying markers or haplotypes which can be used to impute larger datasets for powerful breeding or phylogenetic solutions. RAPiD Genomics can target any sequencing depth in any species.

RAPiD Genomics offers full-service GD-Seq solutions starting from tissue or DNA to FASTQ data, SNP calls, or additional data analyses. The automated RAPiD Genomics commercial lab produces GD-Seq results in as little as 4 weeks.

**Repetitive Element Genome Depletion Sequencing (GD-Seq)**

- 500% more effective than whole-genome sequencing
- Marker Discovery + Imputation
  - Single Nucleotide Polymorphisms (SNPs)
- Haplotype Phasing
- Loci Mapping
  - QTL Identification
  - Gene Identification
  - Causal Genetic Variants
- Phylogenomic Analysis
- Up to 4 week turnaround time

**Sequencing coverage comparison between GD-Seq and traditional whole-genome sequencing**

The same maize sample set was processed through GD-Seq and traditional whole-genome sequencing and analyzed for read depth in all exons of the B73 reference genome. Both datasets were generated using equal sequencing efforts. Sequencing data was recovered for 90% of all exons and sequencing depth improved by 300% - 500%.