RAPID GENOMICS

WHOLE-GENOME SEQUENCING

Leave No Genetic Stone Unturned

About Whole-Genome Sequencing

Whole-Genome Sequencing (WGS) is an untargeted, next-generation sequencing (NGS) solution and the most comprehensive way to investigate the genome of any species.

For commercial applications, WGS can be used to “skim” the genome at shallow depth, which can identify markers or haplotypes. These markers can be used to impute larger datasets for powerful breeding or phylogenetic solutions. Rapid Genomics can target any sequencing depth in any species.

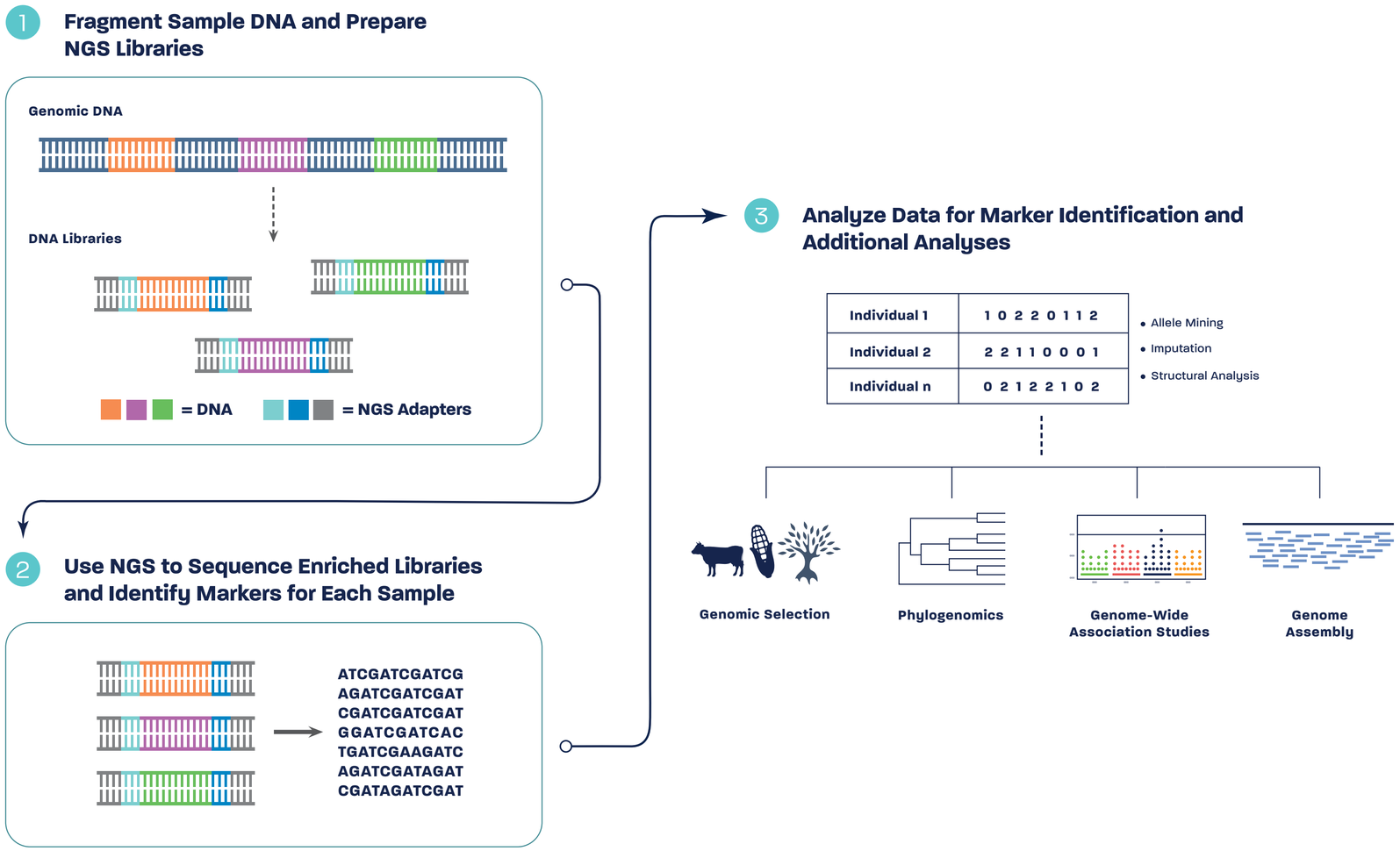
For research applications, WGS provides valuable insights from analyzing datasets, regardless of pre-existing reference information. These analyses produce genetic and structural information which are not possible with more narrow/targeted sequencing approaches. They also provide marker data that can be used to develop targeted sequencing tools via the Capture-Seq and Flex-Seq® Ex-L genotyping systems. WGS is also a solution for obtaining mitochondrial or chloroplast genome information.

Full-service WGS solutions are available at Rapid Genomics starting from tissue or DNA to FASTQ data, SNP calls or additional bioinformatic data analyses in as few as 4 weeks.

Whole-genome sequencing (WGS) gives an unbiased, comprehensive review of any genome for:

- Allele mining: Pre-breeding marker discovery
- Genome skimming: Low-pass genome sequencing
- Pan-genome construction & mapping
- Population genetics
- Metagenomics
- De novo genome assembly

WGS Workflow



Use WGS for:

- Marker discovery & imputation
- Haplotype phasing structural variant detection - InDels
- Loci mapping – QTL, gene, & causal variant analysis
- Phylogenetic analysis
- De novo genome assembly

LEADING A NEW ERA OF GENOMICS

At Rapid Genomics, the key to improving the future is within the secrets of the genome. Our mission is to expand global access to the technologies required for uncovering those secrets with the highest standards of accuracy and reliability. We provide flexible solutions to a range of commercial and research interests focused on agriculture, veterinary genomics, healthcare, and evolutionary biology. Our customers partner with us to advance their goals and, ultimately, strengthen the industries that do everything from producing our food to curing disease.

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