PHASE GENOMICS

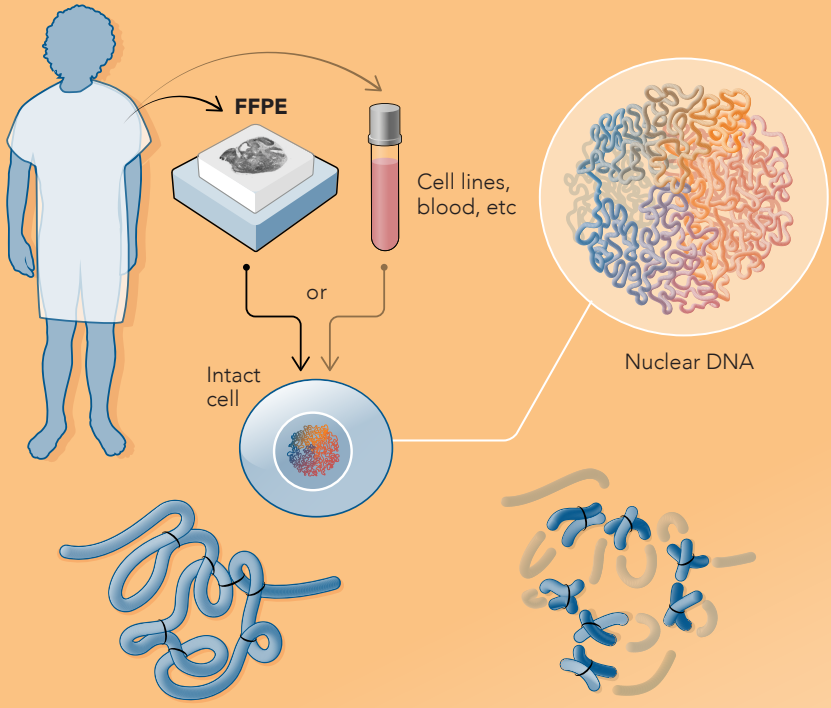
OncoTerra™ Platform

Access New Insights in Precision Oncology

The OncoTerra™ Oncology Platform leverages high-resolution genomic technology to expand the potential of precision oncology. It takes advantage of the unique strengths of ultra-long-range genome sequencing to unlock the wealth of diagnostic and prognostic information contained in FFPE samples, in a cost-effective and scalable NGS-based assay.

Key features and benefits:

- Genome-wide detection of chromosomal abnormalities in a single, NGS-based assay
- Comprehensive cytogenomic information from FFPE samples
- Compatible with a wide variety of sample types without dedicated instrumentation
- New molecular technology with accompanying bioinformatic analyses included



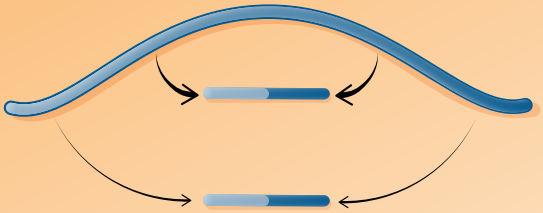
How it works

Chromatin is packaged into 3D structures that retain a relationship between genomic and physical distance (i.e., sequences that are closer on the same chromosome are also closer in physical space).

This method exploits the relationship between linkage and proximity to enable the reconstruction of chromosome structure.

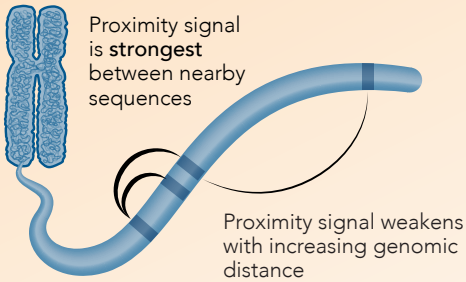
1 DNA is crosslinked *in vivo* to fix DNA sequences inside the nucleus. Crosslinking traps sequence interactions across the entire genome and between different chromosomes.

2 Crosslinked DNA junctions are fragmented, ligated, and converted into a sequencing library.



3 Junctions between physically linked loci are sequenced and mapped back to the reference genome. Each read represents a single, physical connection between two points on the genome. Collecting millions of these data points provides a statistical measure of the distance between any two positions along the genome.

Reconstructing the Genome



Measuring the physical proximity between all loci in the genome creates a genomic map unique to each sample, enabling the detection of a wide range of chromosomal abnormalities.

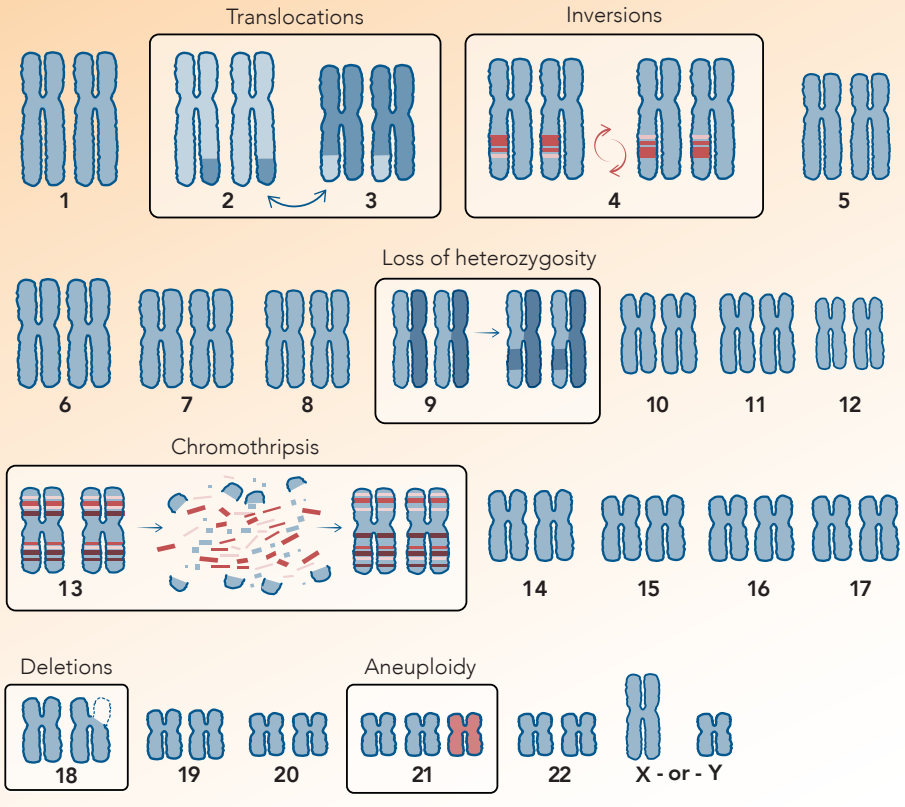


Illustration by Tolpa Studios

Single, Genome-wide NGS Assay

Powered by Phase Genomics' ultra-long-range sequencing technology, the OncoTerra™ Platform leverages the unique strengths of proximity ligation to characterize the breadth of chromosome abnormalities in a single assay.

Unlock the wealth of potential diagnostic and prognostic information contained within non-viable, FFPE, frozen, and fresh samples. Ultra-long-range sequencing does not require actively dividing cells or high molecular weight DNA extraction.

Reduce turnaround time and cost by characterizing the breadth of chromosome abnormalities in a single, scalable, NGS-based assay.

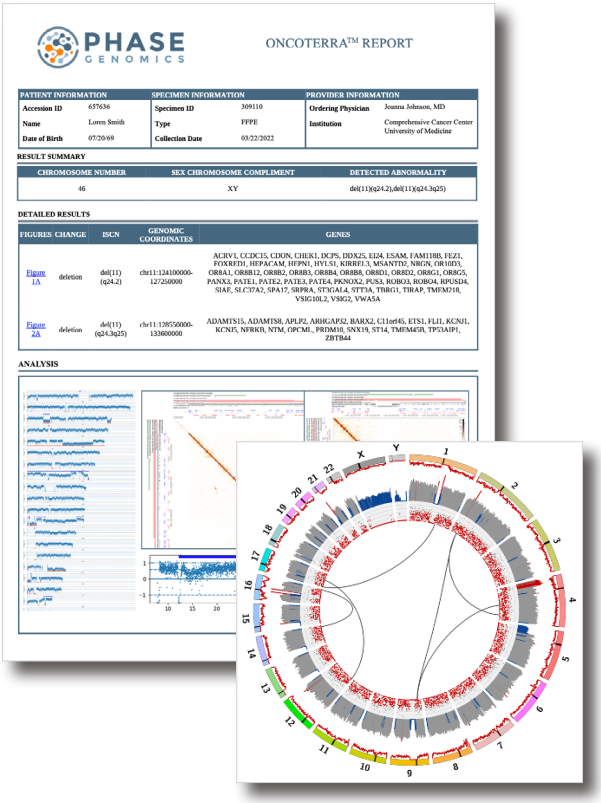
Simultaneously detect all major types of genomic rearrangements that cause and characterize disease, on a genome-wide scale.

Automated Analytics Yield Actionable Results

The OncoTerra Platform provides a sample-to-report NGS-based cytogenomics assay that starts with a solid tumor (e.g., FFPE) or hematological sample, and ends with a comprehensive and actionable report in standard and sequence-based nomenclature.

Fully automated, cloud-based analysis of paired-end Illumina® sequencing data is performed with Phase Genomics' proprietary computational tools.

The entire process can be completed in less than a week, and is scalable to large numbers of samples.


PHASE GENOMICS

ONCOTERRA™ REPORT

PATIENT INFORMATION		SPECIMEN INFORMATION		PROVIDER INFORMATION	
Accession ID	657636	Specimen ID	309110	Ordering Physician	Joanna Johnson, MD
Name	Loren Smith	Type	FFPE	Institution	Comprehensive Cancer Center University of Medicine
Date of Birth	07/20/69	Collection Date	03/22/2022		

RESULT SUMMARY

CHROMOSOME NUMBER	SEX CHROMOSOME COMPLIMENT	DETECTED ABNORMALITY
46	XY	del(11)(q24.2),del(11)(q24.3q25)

DETAILED RESULTS

FIGURES	CHANGE	ISCN	GENOMIC COORDINATES	GENES
Figure 1A	deletion	del(11)(q24.2)	chr11:124100000-127250000	ACRV1, CCDC15, CDON, CHEK1, DCPS, DDX25, EI24, ESAM, FAM118B, FEZ1, FOXRED1, HEPACAM, HFPNI, HYLS1, KIRREL3, MGANT2, NRGN, OR10J3, OR8A1, OR8B12, OR8B2, OR8B3, OR8B4, OR8B8, OR8D1, OR8D2, OR8G1, OR8G5, PANX3, PATE1, PATE2, PATE3, PATE4, PKNOX2, PUS3, ROBO3, ROBO4, RPUSD4, SIAE, SLC37A2, SPA17, SRPR4, ST8GAL4, STT3A, TBRG1, TIRAP, TMEM218, VSIG10L2, VSIG2, VWA5A
Figure 2A	deletion	del(11)(q24.3q25)	chr11:128550000-133600000	ADAMTS15, ADAMTS8, APLP2, ARHGAP32, BARX2, C11orf45, ETS1, FLI1, KCNJ1, KCNJ5, NFRKB, NTM, OPCML, PRDM10, SNX19, ST14, TMEM45B, TP53AIP1, ZBTB44

ANALYSIS

For Research Use Only. Not for use in diagnostic procedures.

Phase Genomics has played a leading role in delivering ultra-long-range sequencing technology and computational tools to the life science research community, with a proven track record of enabling deeper insights into the architecture, variation, function, and complexity of genomes, epigenomes, and metagenomes. That same know-how and expertise has been used to create the OncoTerra™ Platform. This platform leverages ultra-long-range sequencing to deliver a cost-effective, high-throughput assay for uncovering potential genomic etiological underpinnings of human health and disease. Through the platform's impactful and actionable insights, we are enabling translational discoveries that will ultimately lead to faster precision diagnoses, treatment, and improved health outcomes.

The OncoTerra Platform is currently offered as a comprehensive sample-to-report service. Contact us to inquire about RUO kits compatible with existing low- and high-throughput sample processing pipelines.

Learn more

PHASE GENOMICS

info@phasegenomics.com
www.phasegenomics.com

Phone: 1-833-742-7436
Twitter: @PhaseGenomics

OT11162022