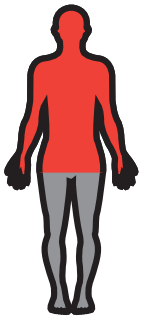
# Unravel Oncogenic Drivers Through Comprehensive Genetic Variant Detection

Dovetail GENOMICS
Part of Cantata Bio, LLC

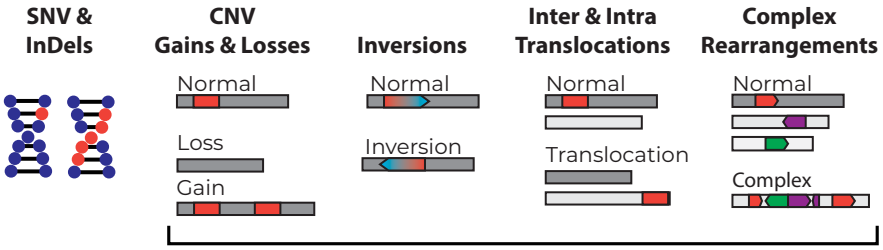
## Cancer genomes are complex and largely unresolved. Capturing all classes of genetic variation is a critical step to cataloging oncogenic drivers.

Over 50% of late-stage cancers are driver-negative



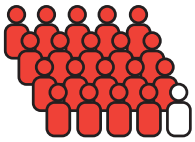
**~54%**
**Driver Negative Cases**
(Attalla et al., 2021)

Genetic drivers of cancer are diverse in both size and complexity



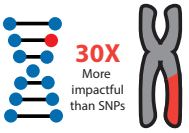

Structural variants are the most diverse and complex type of genetic variant

## Structual variation is a key driver of cancer



~95% of cancers contain one or more SVs (2,658 cases accross 38 tumor types; *Li et al., 2020*).

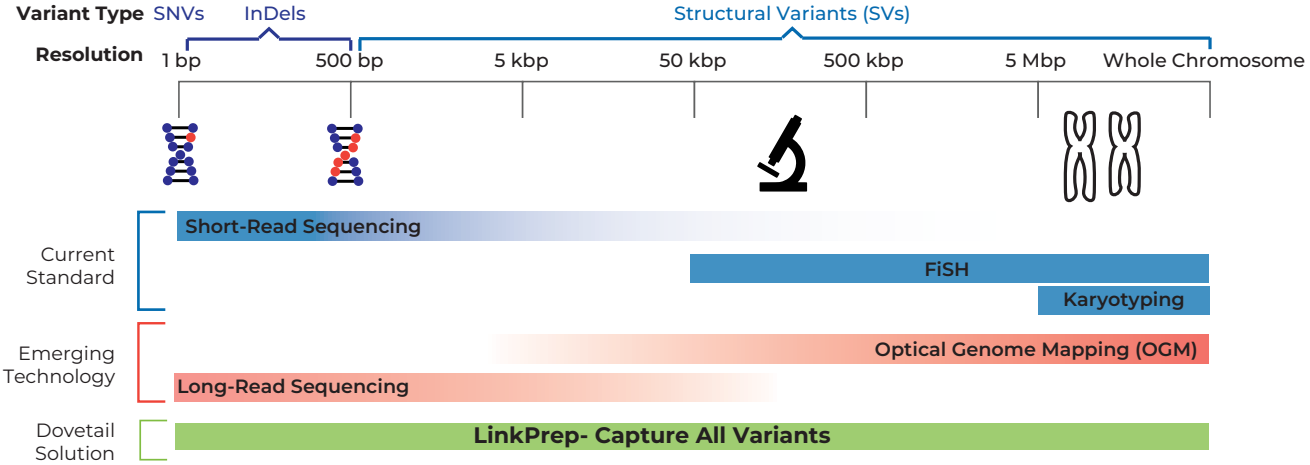
Translocations & large SVs >100kb in size represent 83% of actionable SVs (*Cui et al., 2022*)




Large SVs are 30X more likely to affect oncogenic expression compared to SNVs (*Chiang et al., 2017*).

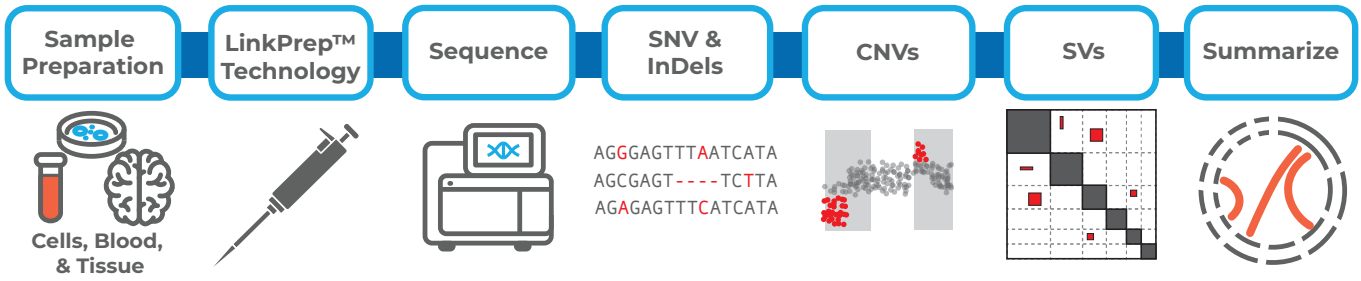
SV prevalence and impact on oncogenesis highlights the need to capture and describe these complex genetic events across cancer.

## Strucural variation is challenging to detect with current molecular approaches. Dovetail® LinkPrep™ Technology addresses these challenges.



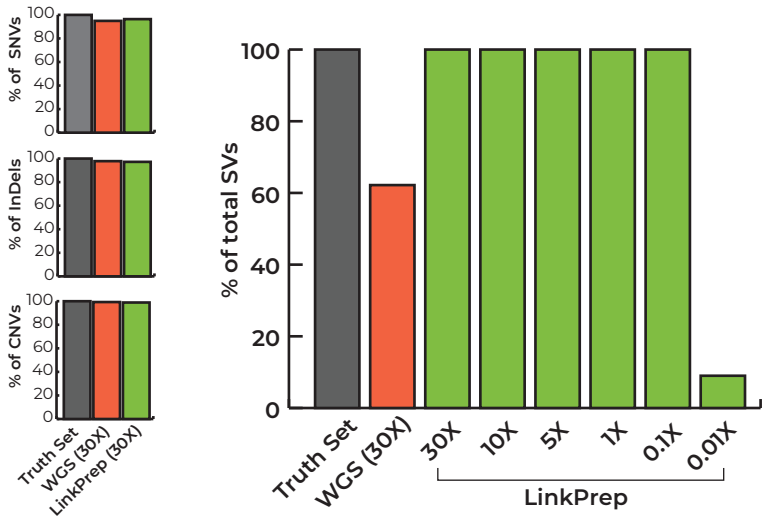

Detecting the full spectrum of genetic of genetic variants requires a combination of traditional technologies. Current and emerging technologies leave significant gaps in the ability to detect genetic variation at difference size ranges and complexities, resulting in reserachers relying on several different technologies to catalog all variants in a sample. The LinkPrep solution solves this approach by spanning all genetic variation in a single NGS assay that works on a short-read sequencing platform.

## A simplified workflow to detect all variant classes




LinkPrep's sample-to-analysis workflow starts with cells, tissue, or blood. Libraries are sequenced on an Illumina platform. The resulting data are analyzed with standard NGS software, resulting in a complete catalog of genetic variation.

## LinkPrep technology detects SVs with high sensitivity plus captures more classes of variants than other technologies




LinkPrep data excels at detecting genetic variants. Access highly sensitive SV detection with WGS-equivalent detection of SNVs, InDels, and CNVs, with LinkPrep technology, all on an Illumina platform. At its core the LinkPrep assay is an NGS solution that captures primary sequence information used to detect clinically relevant SNVs, ImDels, and CNVs. The unique chemistry behind the LinkPrep assay unlocks high sensitivity SV detection while minimizing false positives on your Illumina sequencer, even at low sequence depth.

*The truth set K562 is generated from a variety of technologies including WGS >80X coverage, RNA-seq and long read sequencing.*

## Access the LinkPrep Assay through Kits and Services

### LinkPrep™ Kit

- 8 Reaction Kit
- Illumina Compatible Libraries
- Step-By-Step Analysis Guide
- Best-In-Class Customer Support

### LinkPrep™ for Variants Services

- End-To-End Solution
- Flexible Configurations
- Dedicated Project Manager
- Standardized Deliverables
- Summary Report

Cantata Bio
100 Enterprise Way, Ste. 101
Scotts Valley, CA 95066
831-713-4465