

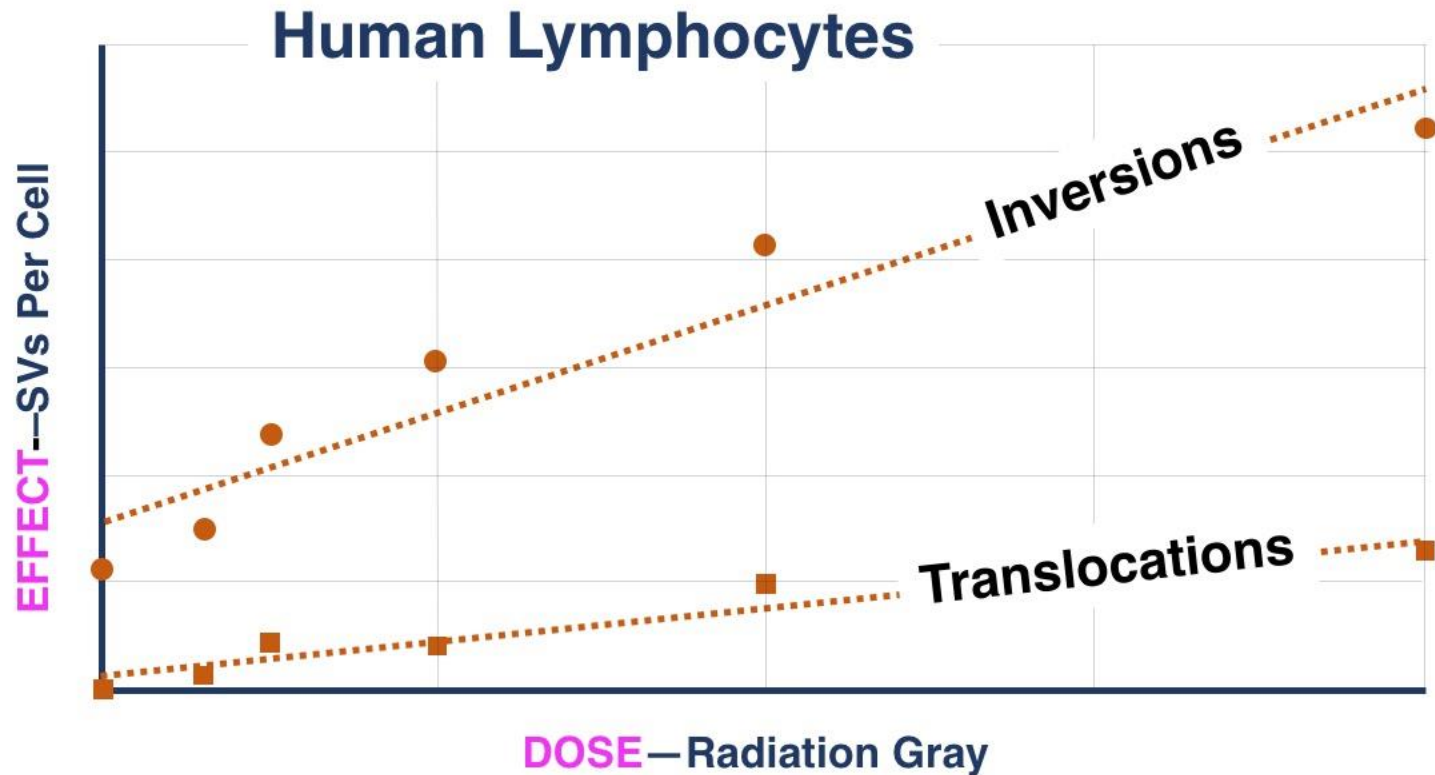
KromaTiD

Direct Definitive Genomics



dGH Analysis Tools for Gene Editing

Single Cell Structural Genomic Analysis



Deep experience measuring DNA mis-repair for
Dosimetry and Oncology

Complex Mis-Repair

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Edit Site
DSB



High Frequency

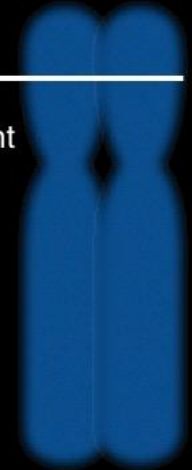
Homologous Site
DSB



Low Frequency

Genome Dependent

Random
DSB



Low Frequency
Process Dependent

Opportunities for **Mis-Repair** are **Proportional** to the number of **Double Strand Breaks**. Rates of DSBs likely depend on the Edit System, Raw Materials and Conditions

Directional Genomic Hybridization



De Novo dGH

Direct measurement of structural variations **in many single cells**

- Complete characterization of SVs possible including inversions
- Retains the full cellular and chromosomal context without pooling DNA
- Definitive detection from image data without bioinformatic interpretation
- High resolution method with LODs of 4 KB and <0.5% prevalence

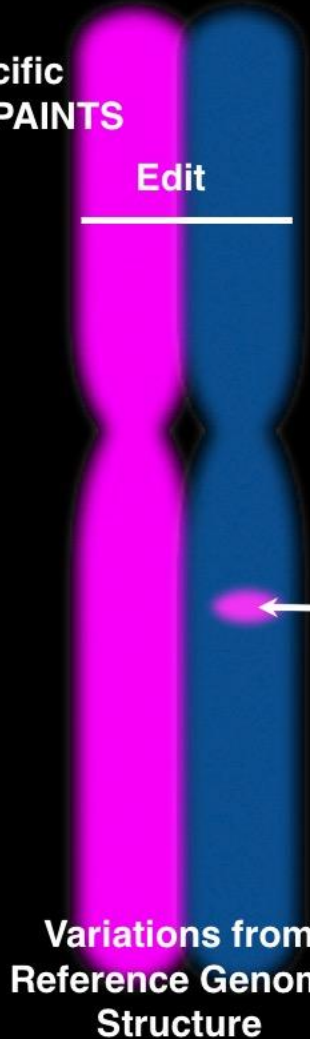
Two dGH Assay Designs

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De Novo dGH

Strand Specific
Chromatid PAINTS

Edit



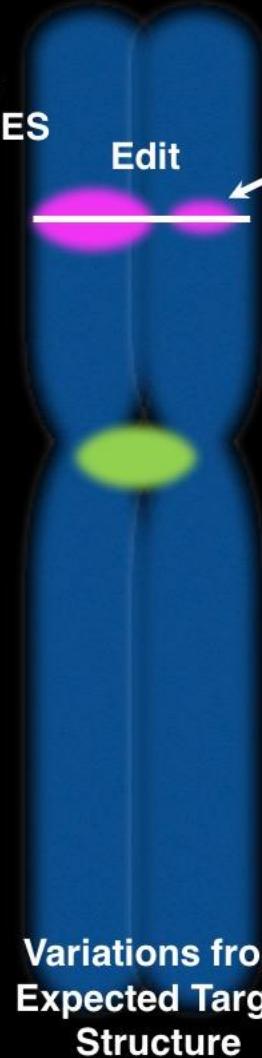
Variations from
Reference Genome
Structure

Targeted dGH

Strand Specific
Targeted PROBES

Edit

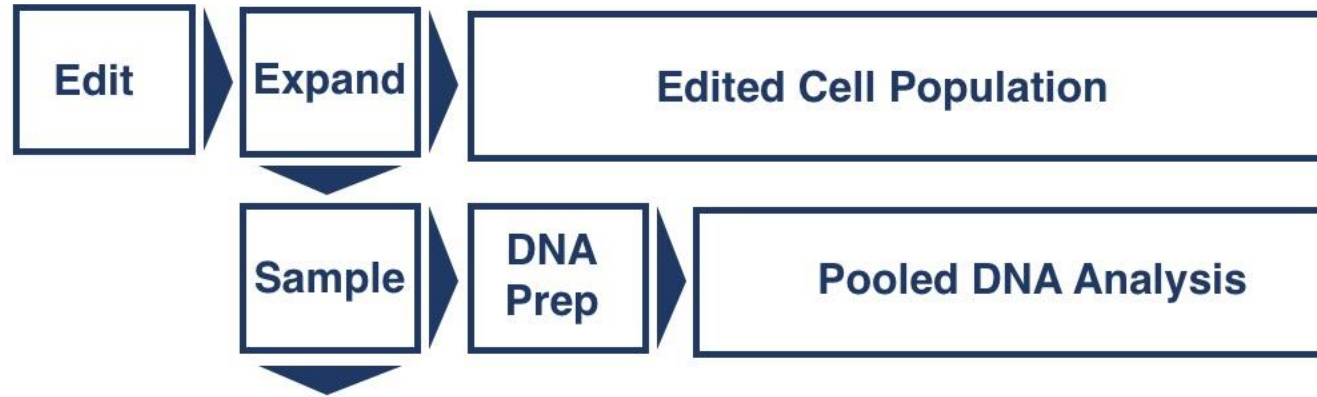
Inversion



Variations from
Expected Target
Structure

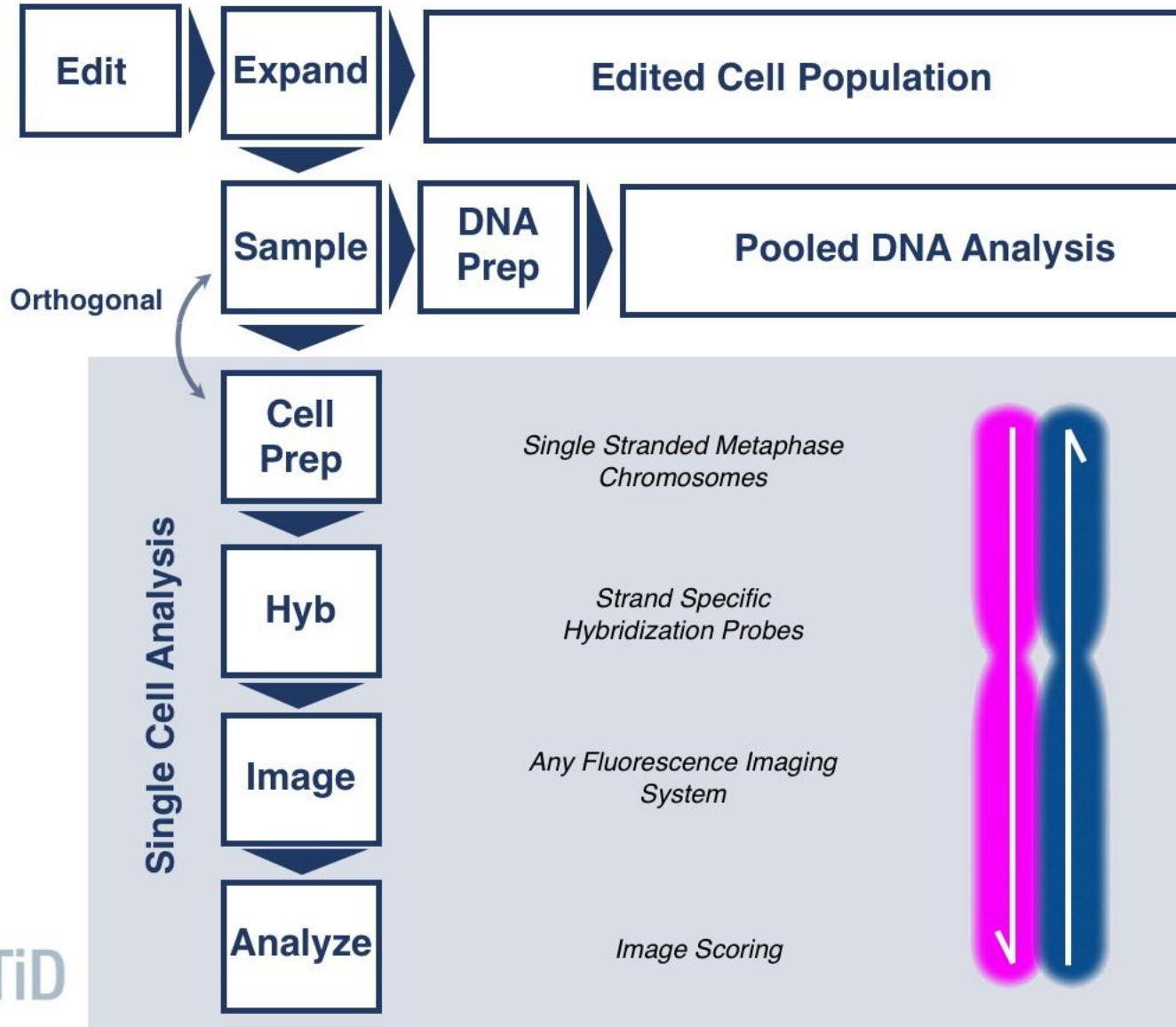
dGH Integrates with Editing Workflow

6

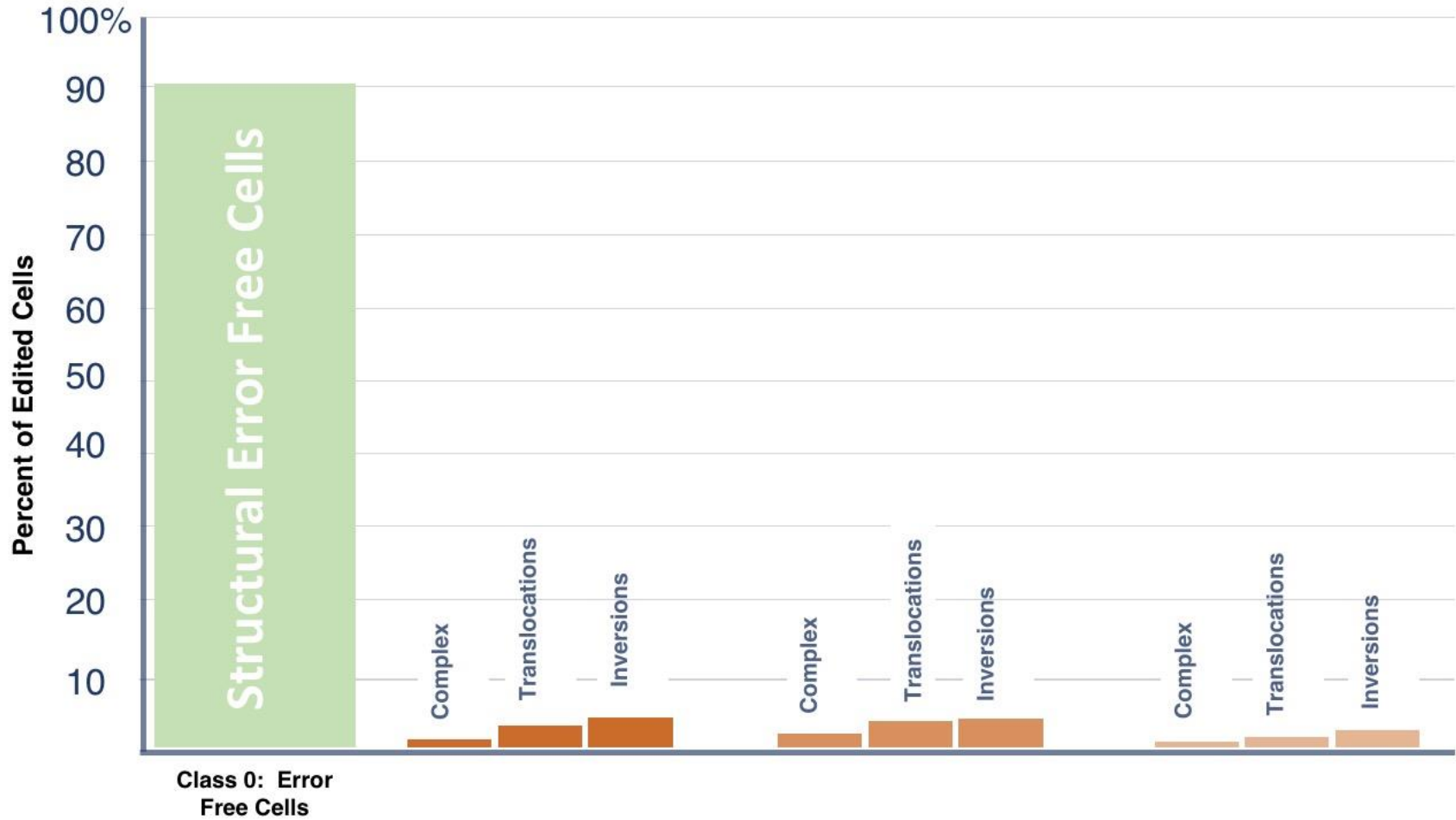


dGH Integrates with Editing Workflow

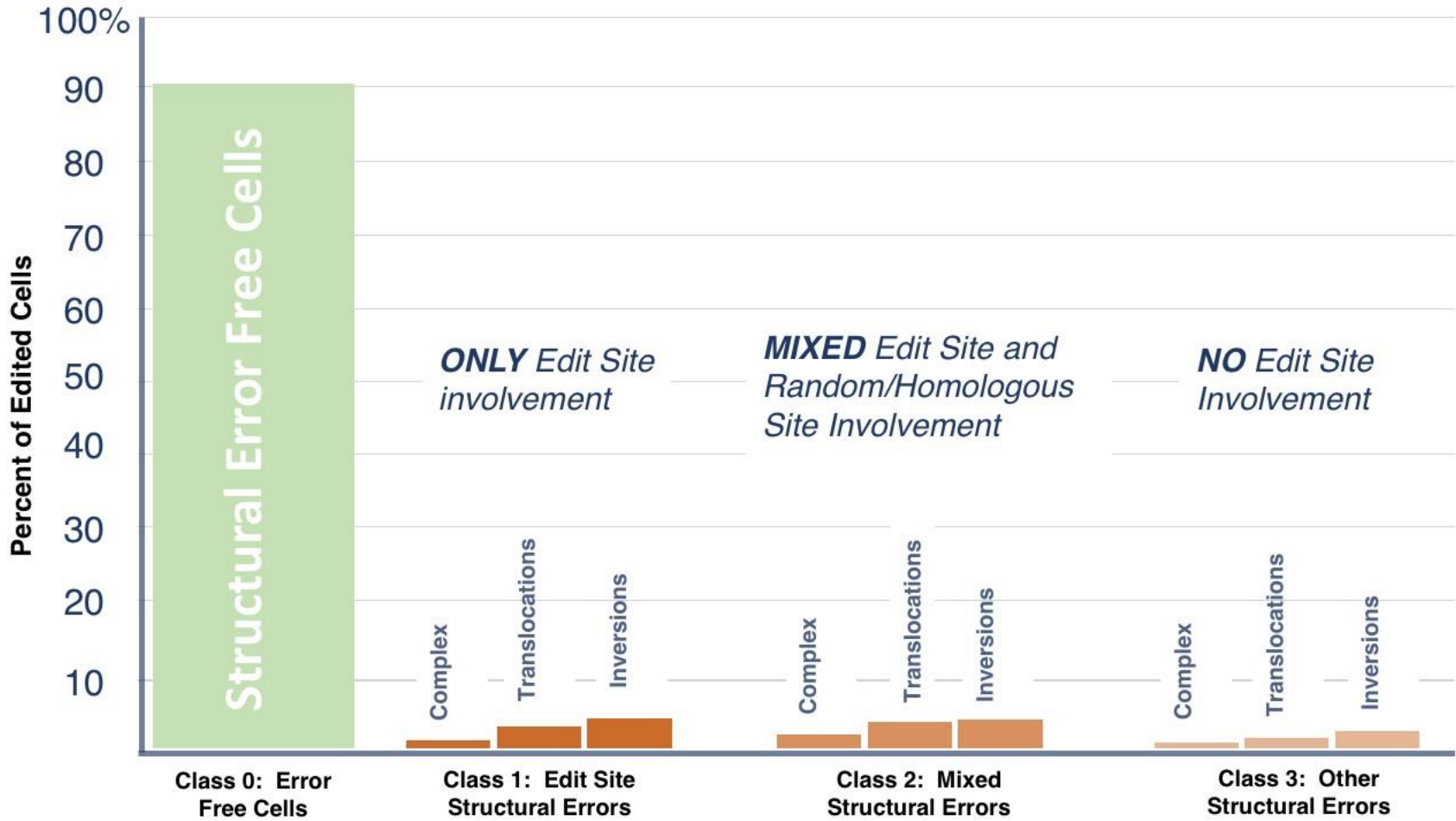
7



Structural Error Free Cells



Classes of Structural Errors



Inversion  Translocated
Fragment

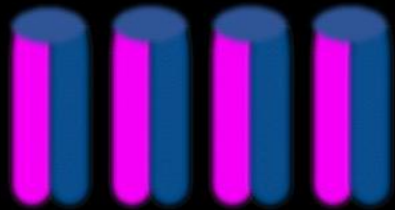
Proprietary Strand Specific
Chromatid Paints measure
structural variations from the
reference genome

Translocation
Source 

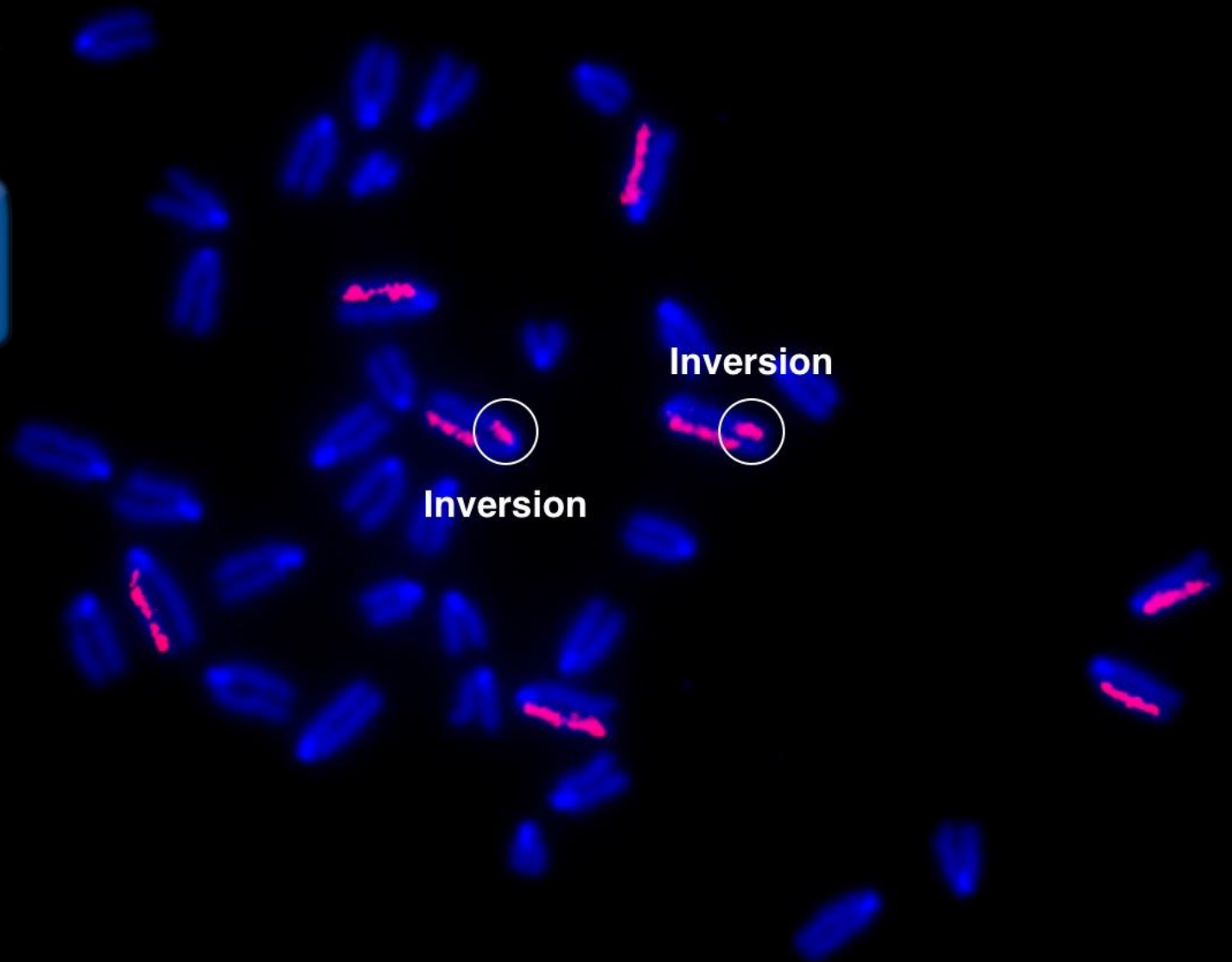


 Inversion

 Inversion
Inversion



Mouse C1-C4



Correct Edit Site Structure



Edit Site Inversion



Correct Edit Site Structure

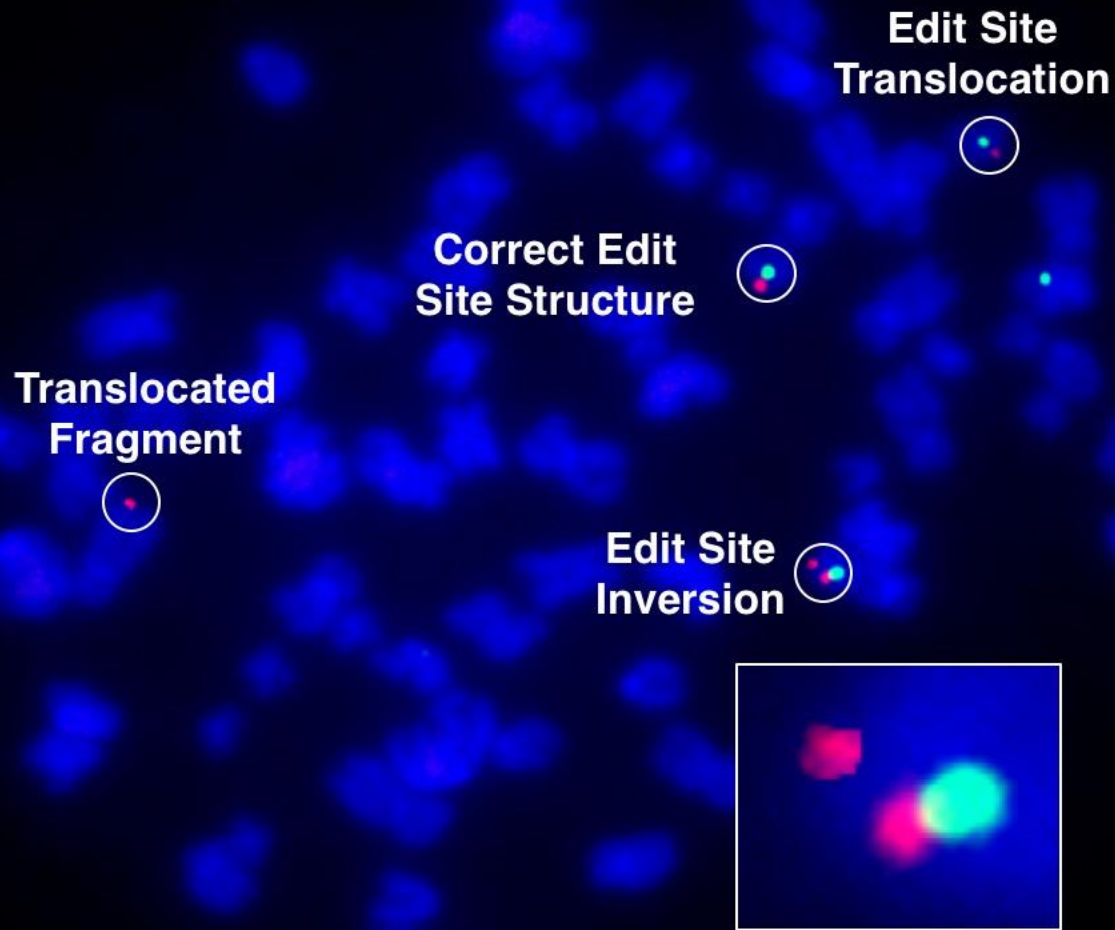


Proprietary Strand Specific Chromatid Probes measure variations from expected edit structure

Dual Edit

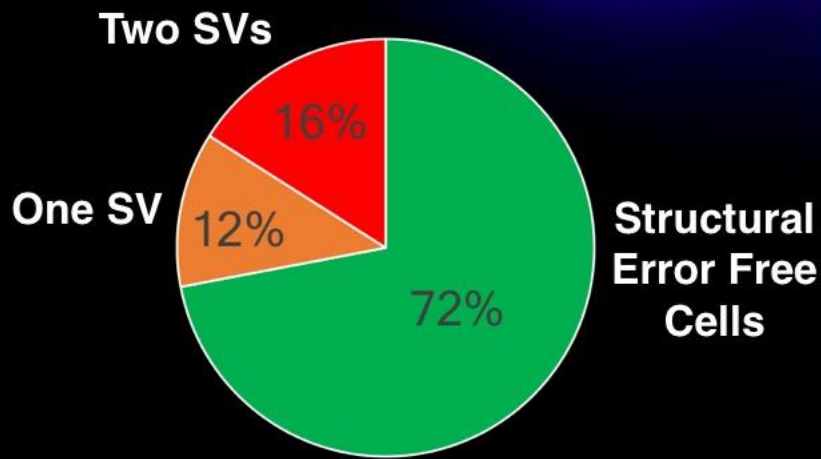
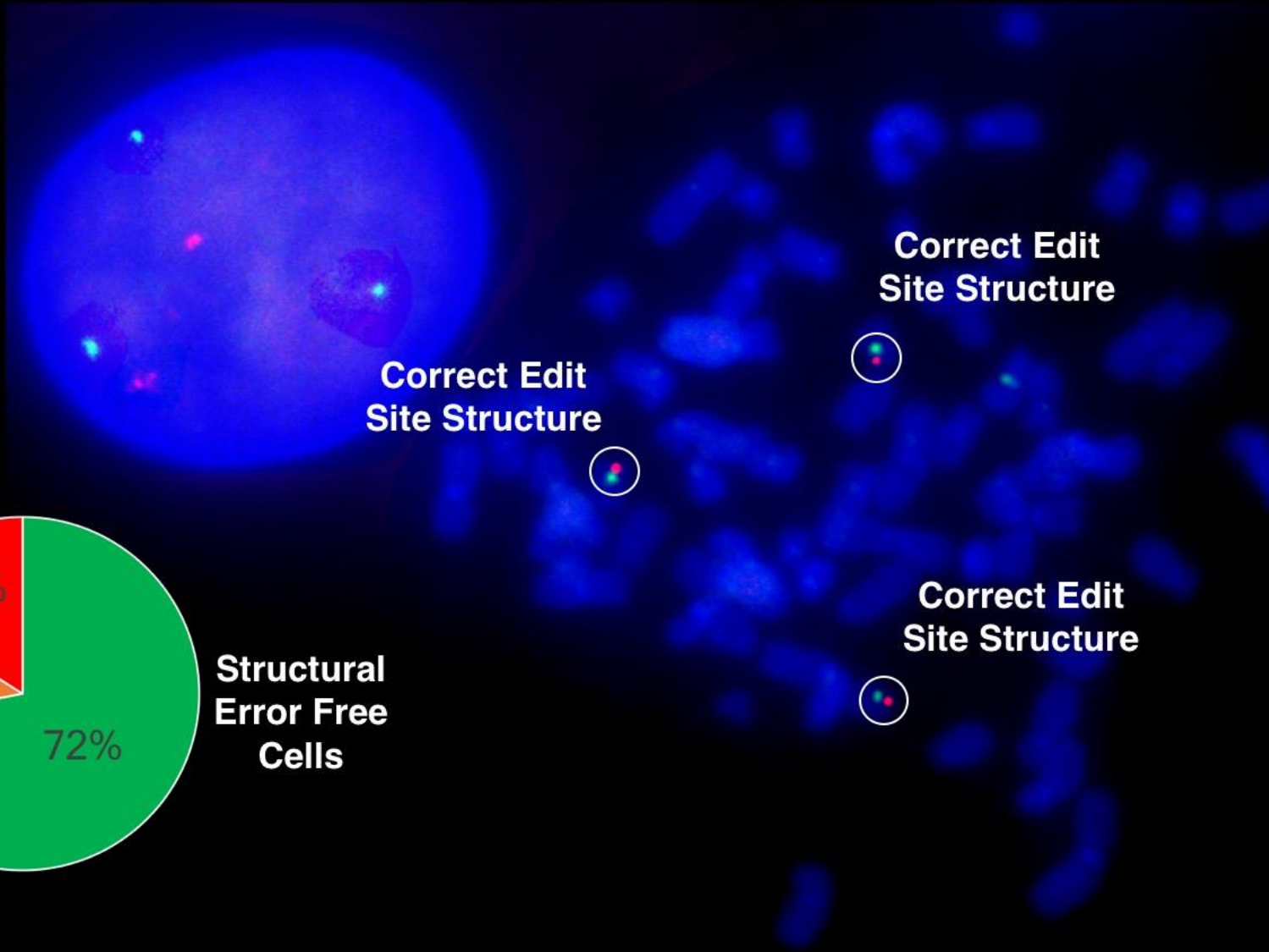


Edit Site Inversion



Structural Error Free Cells: 72%

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Material Qualification



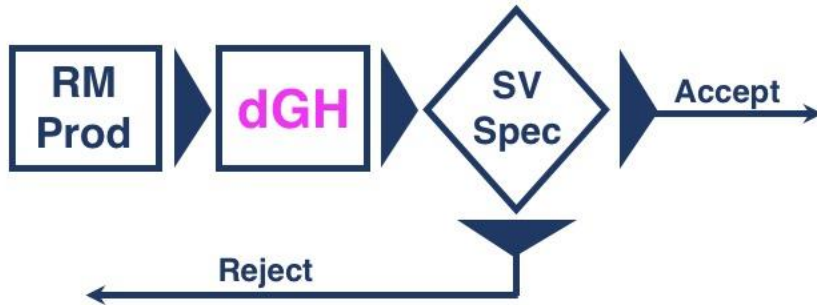
Material Qualification



Optimization



Material Qualification



Optimization



Subject Assessment



Material Qualification



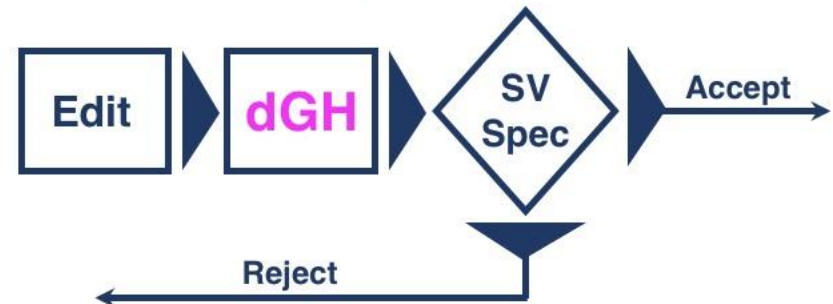
Optimization



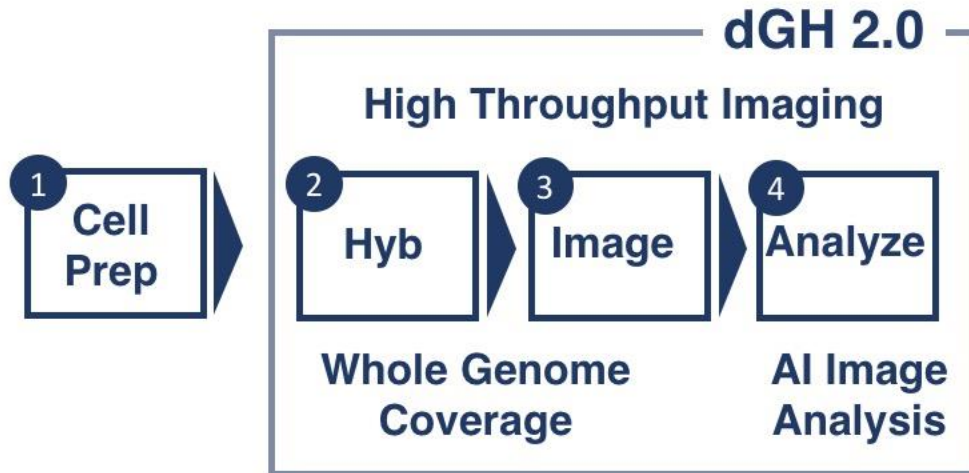
Subject Assessment



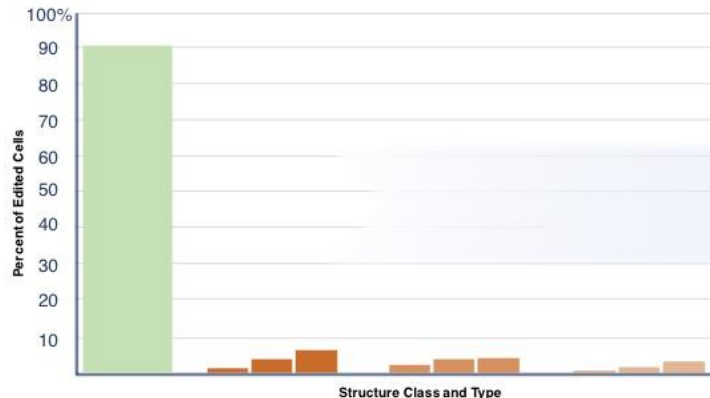
Quality Control



Next Steps—Whole Genome dGH 2.0 19



Routine efficient measurement of comprehensive structural genomic profiles



Qualification
Optimization
Screening
Control

Thank You...

KromaTiD

Direct Definitive Genomics

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