KromaTiD

Data Sheet

# dGH SCREEN™

## What is dGH SCREEN?

**SCREEN:** Single-Cell Rearrangement Event Evaluation and Numbering

A single cell assay designed to monitor structural variants throughout the genome in an entirely de novo fashion. By utilizing directional Genomic Hybridization technology, combined with strategic labeling patterns and chromosomal morphologies, dGH SCREEN provides the most comprehensive and high-resolution karygraphic analysis available. dGH SCREEN is designed to discover and quantify structural variants within heterogeneous cell populations. dGH SCREEN is available for blood derived cells, cell lines, iPSCs, other stem cells and more.

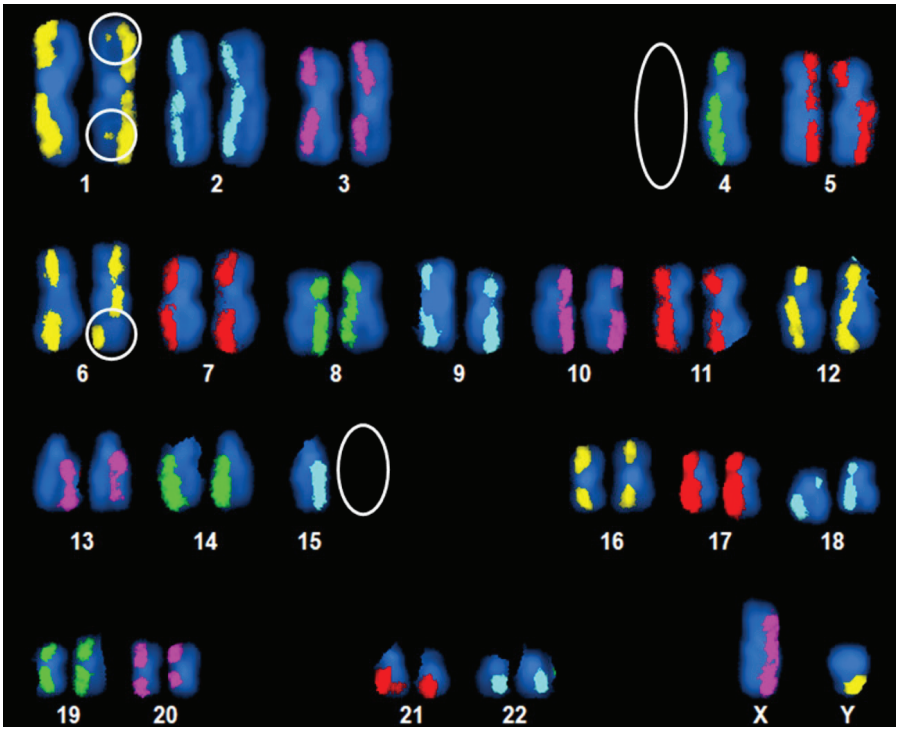


**Figure 1:** Example image of dGH SCREEN™ organized karyographically with rearrangements. There are two small inversions or sister chromatid recombination events present on chromosome 1 (circled, right homologs, upper left of image), monosomy of chromosomes 4 and 15 (circled as missing), and a large inversion or sister chromatid exchange present on the right homolog of chromosome 6 (also circled).

## Benefits of dGH SCREEN

With dGH SCREEN, researchers are able to track and localize a wide variety of chromosomal rearrangements within a **10kb limit of detection:**

- **Exchange Events** including reciprocal, balanced and allelic translocations

- **Orientation Events** including inversions, recombinations and sister chromatid exchanges.

- **Chromosomal Gain & Loss Events** including sister chromatid fusions, dicentrics/acentrics, fragmentation/chromothrypsis, polypoidy, aneuploidy, monosomy, polysomy.

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# dGH SCREEN™ Applications

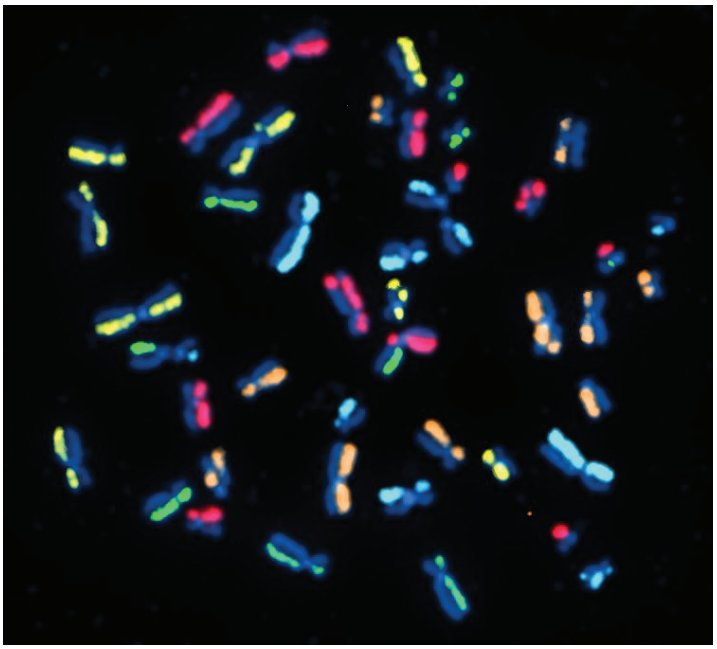

**Figure 2:** Metaphase spread prior to karyogram organization in a cell line derived from an individual with potential ionizing radiation exposure.

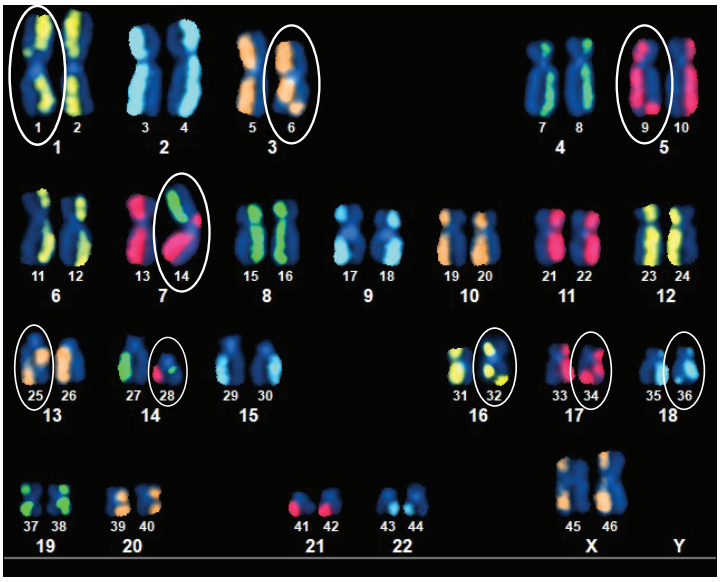


**Figure 3:** Same metaphase spread from figure 2 organized karyographically by homolog in order to more easily reflect chromosome ID. Chromosomes with structural variant events are shown circled in white. A reciprocal translocation between chromosomes 7 and 14 was observed in this cell, along with several inversions and sister chromatid exchanges. The two translocation derivative chromosomes have a combination of pink and green paint.

**Monitoring Cellular Engineering Outcomes**
Genome-wide, cell-by-cell and chromosome-by-chromosome assessment of structure, pre- and post modification.

**Orthogonal Data for Sequencing**
Genome-wide, confirmatory data regarding rearrangements predicted with long read and other NGS analyses.

**Structural Integrity QC**
A straightforward yardstick by which to measure the relative stability of cell lines, or to screen and compare candidate cell lines, based on total genomic structural variation metrics.

**Variant Discovery**
Discover previously unknown mutations by de novo assessment of single cells from patient sub-types

**Genomic Stability Assessment**
Track persistence of variants over time, passages, process variable changes, etc.

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# Working with KromaTiD is Easy!

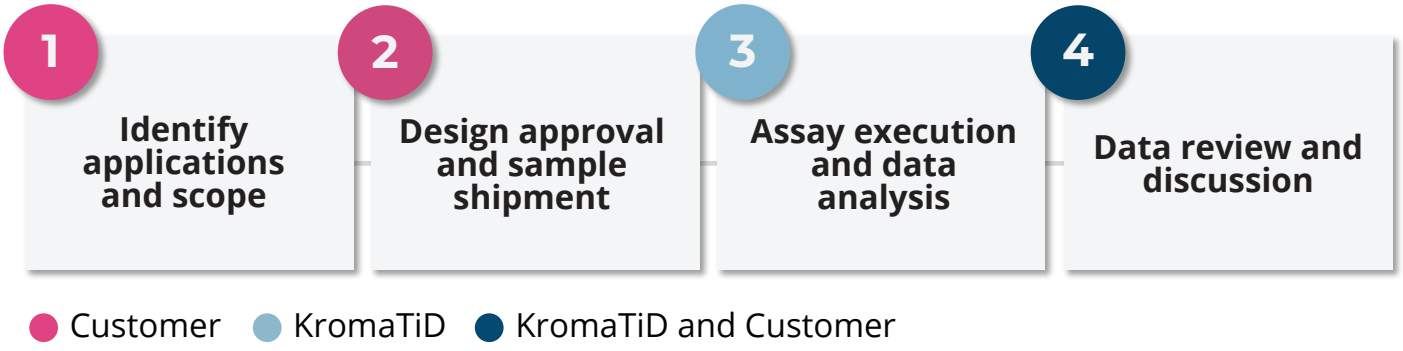


**Figure 4:** Example workflow with KromaTiD running dGH SCREEN assay on engineered lines in house.

As an orthogonal analysis to PCR/sequencing techniques, dGH SCREEN assays enable, through direct visualization, definitive single-cell measurements of structural variants throughout the genome.

With higher resolution than any other traditional cytogenetic method, dGH SCREEN is the most comprehensive tool available for researchers to track genome-wide structural rearrangements in a completely unbiased manner.

| Products & Services | List Price |
|---|---|
| Non-Refundable Set-Up Fee (when applicable) | Project Specific |
| Assay Execution, Imaging and Scoring | $5000/sample |
| Culture Development | $600/sample |
| Cell Culture + Harvest | $600/sample |

For more information on how KromaTiD can transform your research, please contact **sales@kromatid.com!**