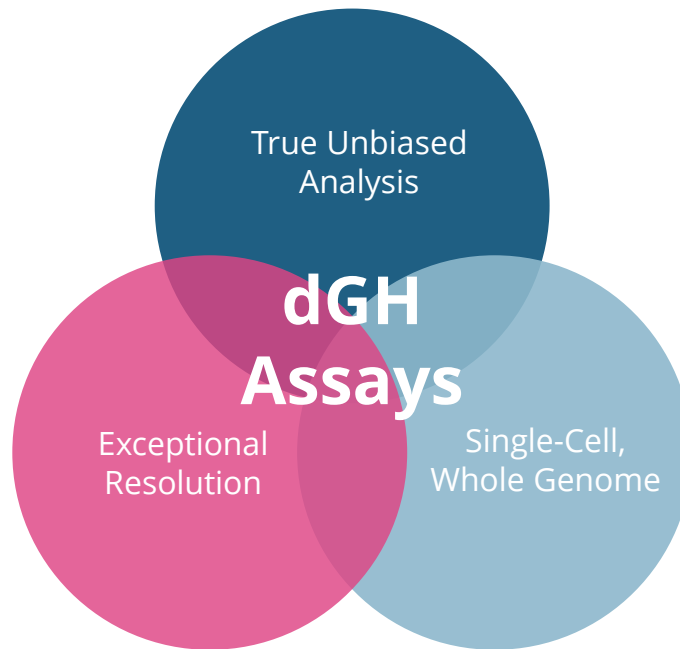


See What You've Been Missing with dGH in-Site™ DNA Probes



KromaTiD

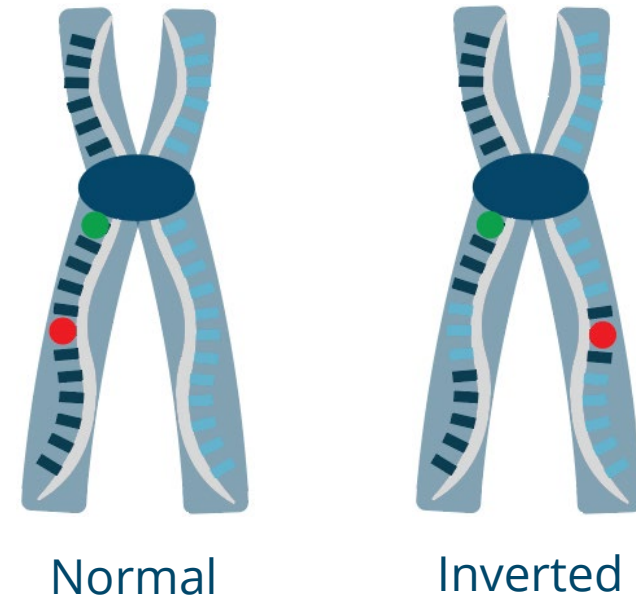
Direct, Definitive Genomics

Identify the Genomic Information Often Missed by NGS and FISH.

dGH in-Site™ assays produce powerful, single-cell datasets.

dGH in-Site assays provide:

- Direct visualization of all classes of genomic structural variation, including orientation
- Resolution of targets as small as 2 kb
- Exceptional signal-to-noise ratio
- Genomic information unobtainable by either metaphase or interphase FISH

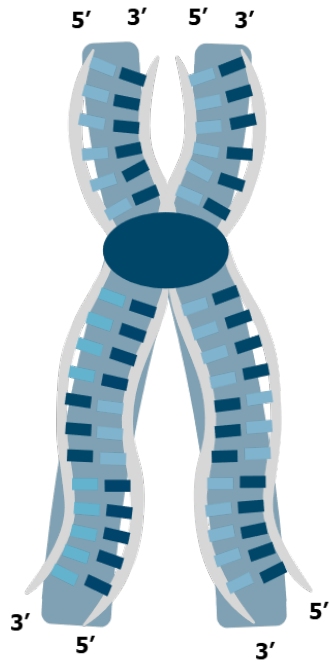


KromaTiD

Direct, Definitive Genomics

directional Genomic Hybridization (dGH™) Process

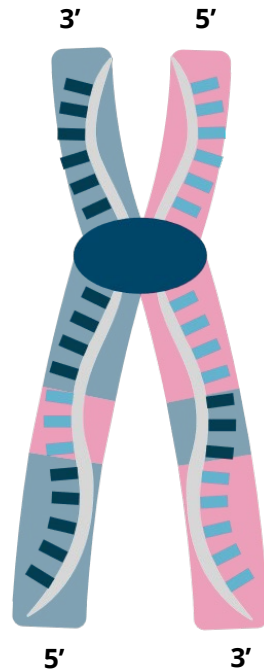
Blue = DAPI Staining of Chromosome Structure



Double Stranded Metaphase Chromatid

Pink = Fluorescently Labeled Hybridization Probes

Daughter strand stripping
→
Hybridization with single-stranded probe



Analyte: Single Stranded dGH Chromatid

DNA Orientation Determined from Image Data

dGH chromosomes contain 2 strands of oppositely oriented, parental DNA only—NO daughter strands

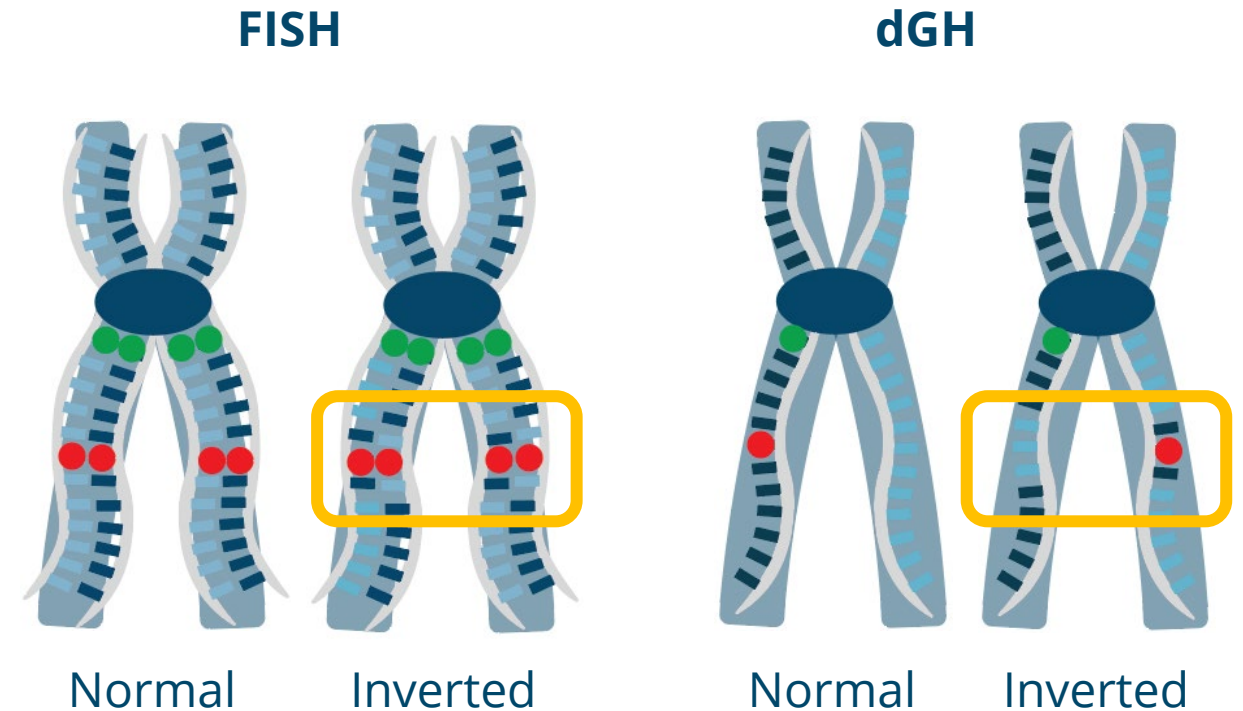
Single-stranded probes are designed to target *only* one strand:

Signal appears on one chromatid only.

An inversion at a target locus causes fluorescence on the opposite sister chromatid.

Uncover the Biology Hidden in FISH

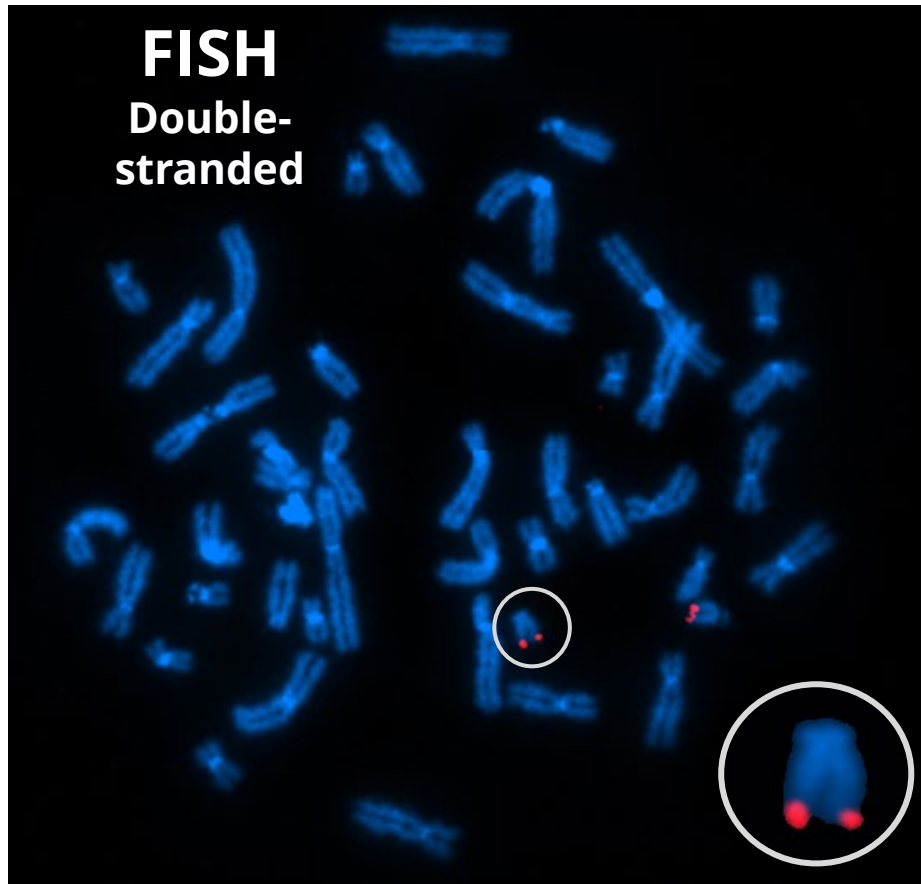
1. Cells are cultured with dGH analog nucleotide media additive and Colcemid®
2. dGH probes are **single-stranded**
3. dGH samples are **single-stranded**
4. **An inversion hidden in FISH is revealed with dGH in-Site**



KromaTiD

Direct, Definitive Genomics

Pinpoint FISH and dGH in-Site™ Comparison



What Single-Strand Analysis Can Reveal

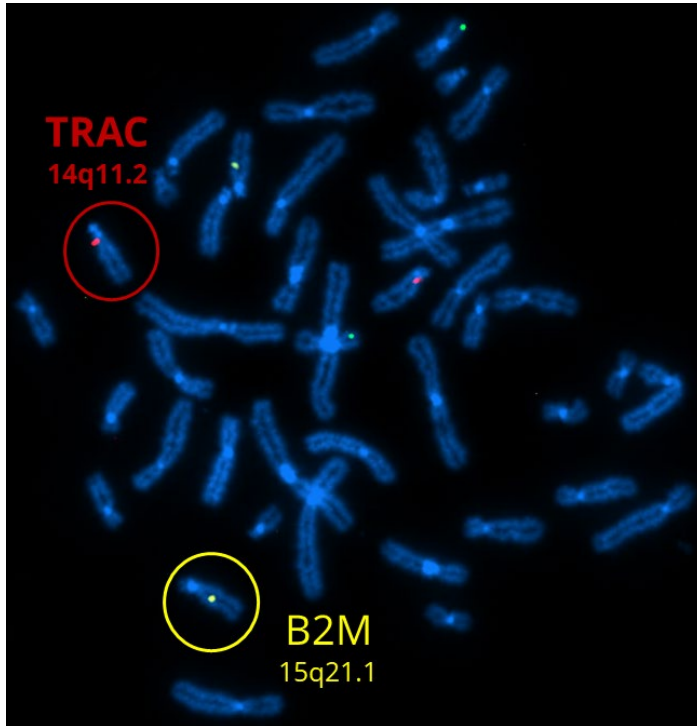


Fig 1. dGH™ in-Site TRAC 14q11.2 (red), B2M 15q21.1 (yellow) and CIITA 16p13.13 (green) probes in GM12753 control lymphoblastoid cell line.

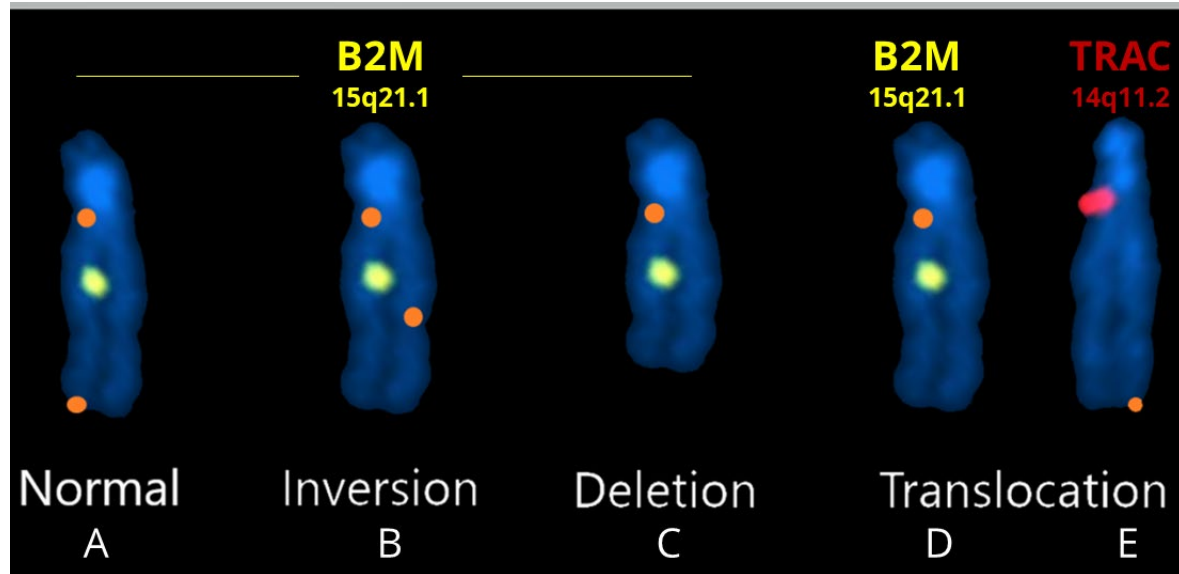
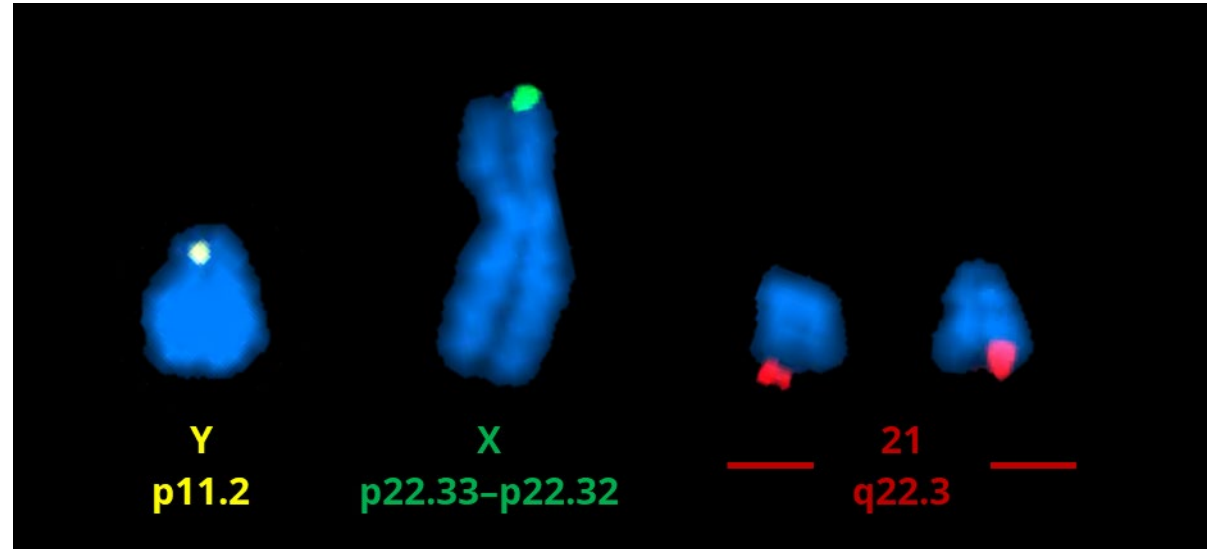
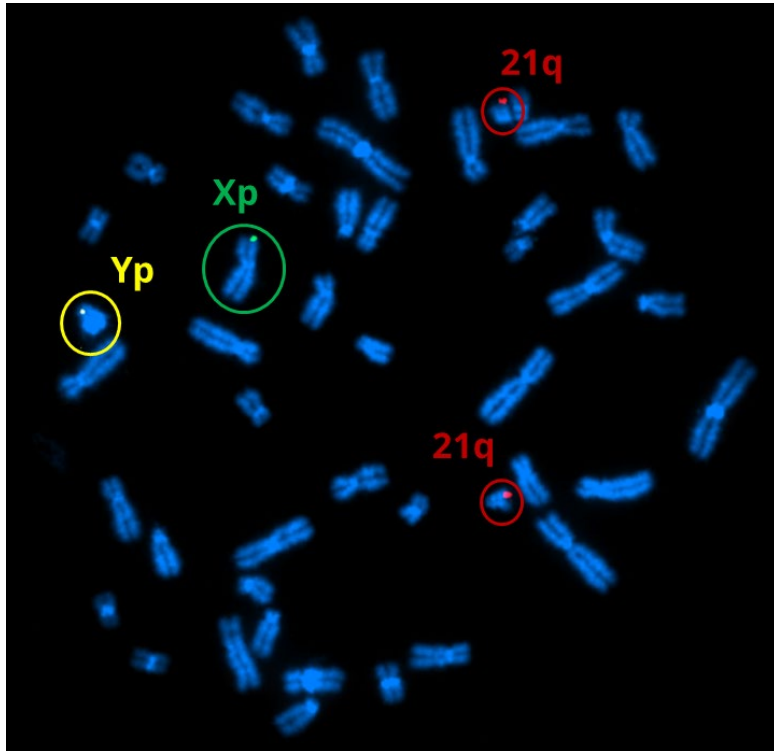


Fig 2: Simulated hybridization of orange-labeled subcentromere and subtelomere dGH in-Site probes on chromosome 15 that is normal (A), inverted (B), deleted (C) and translocated (D) with chromosome 14 (E).

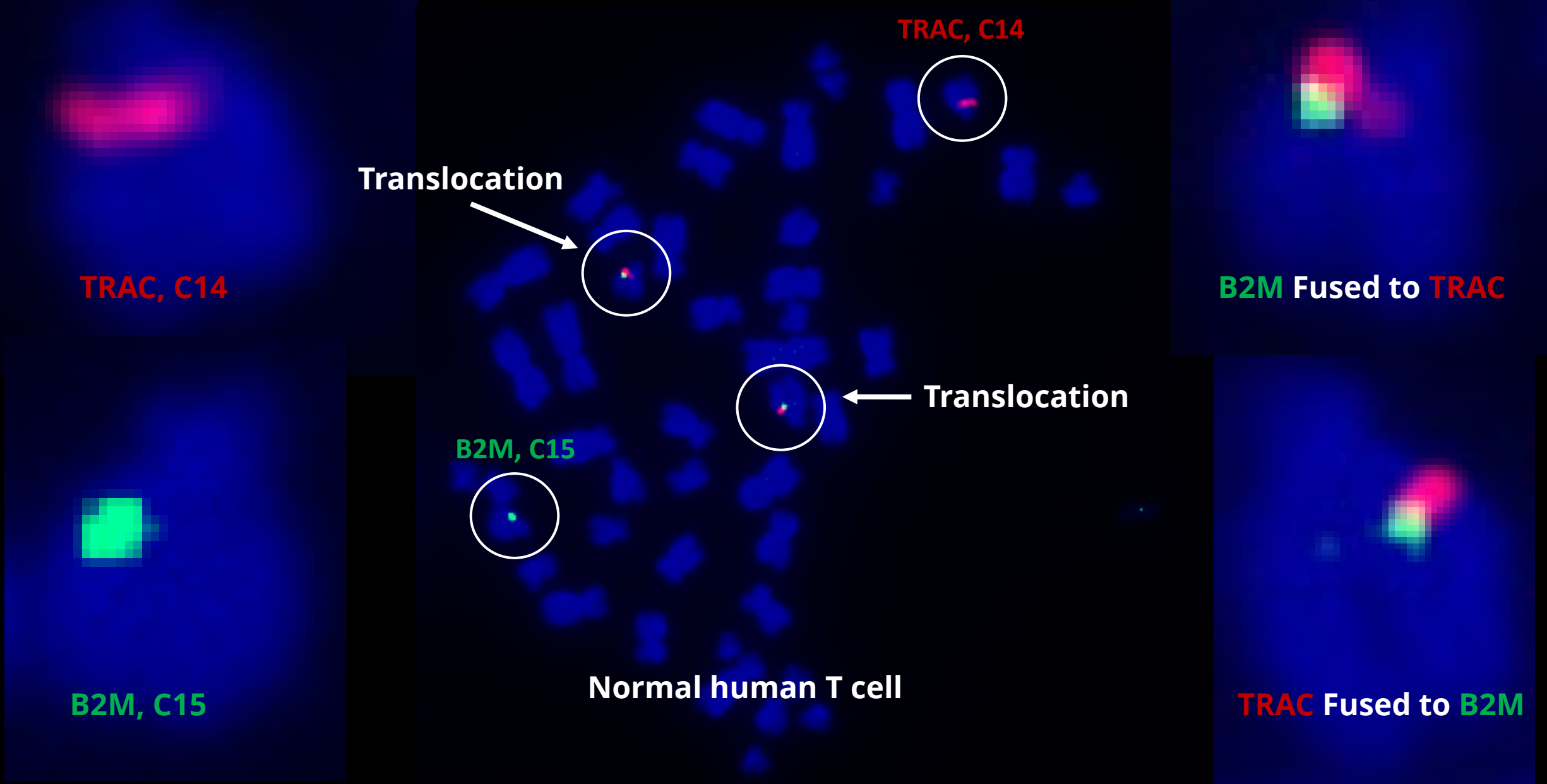
Example: 3-plex dGH in-Site™ Subtelomere Assay



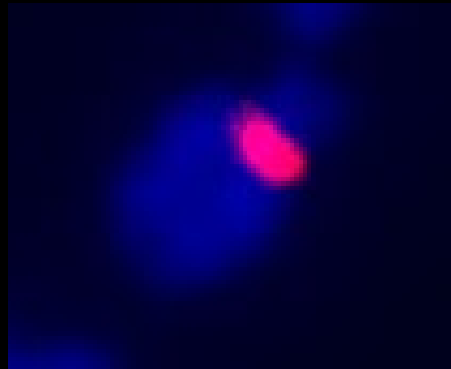
Multiplexed dGH in-Site assay results.

dGH™ in-Site subtelomere probes for chromosomes Yp (yellow), Xp (green), and 21q (red) in GM12753 control lymphoblastoid cell line.

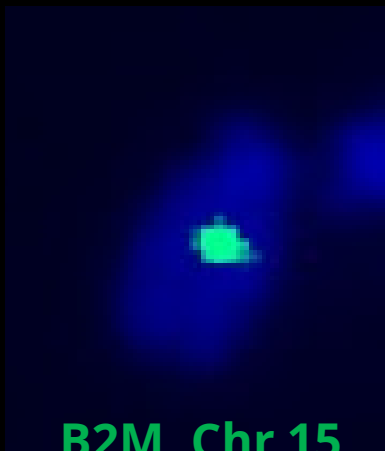
Example: Balanced Reciprocal Translocation



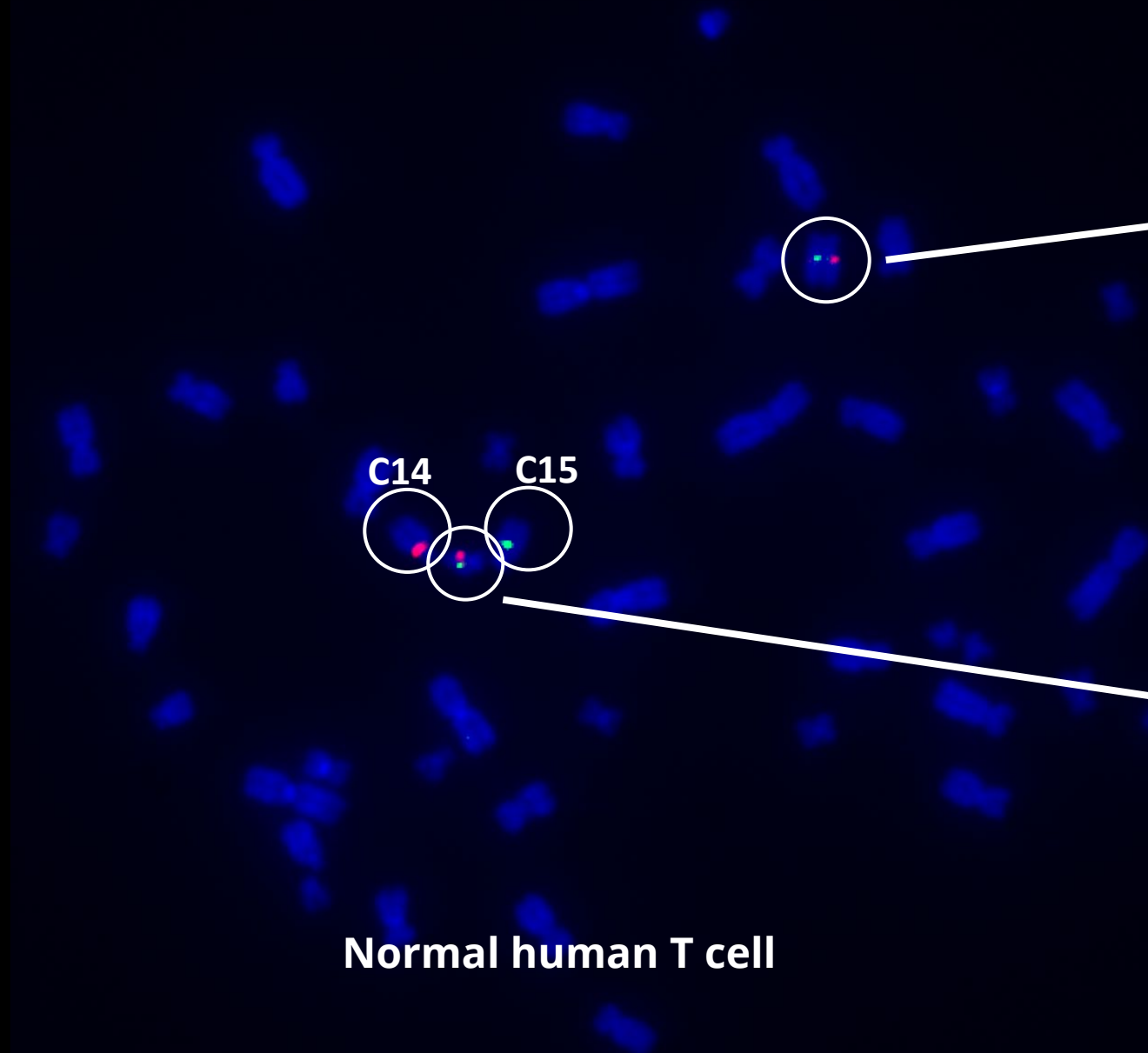
Example: Unbalanced Reciprocal Translocation



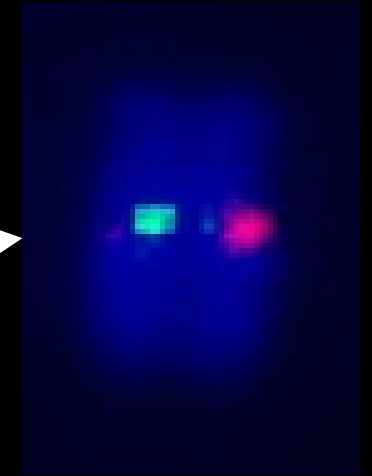
TRAC, Chr 14



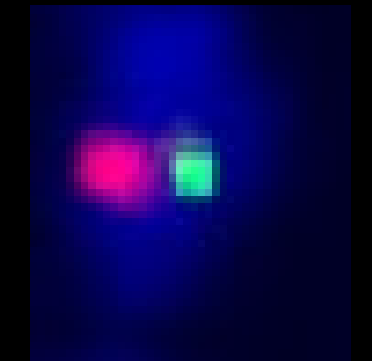
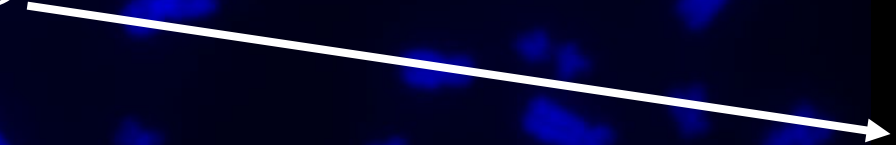
B2M, Chr 15



Normal human T cell



B2M Fused to TRAC
(Acentric)



TRAC Fused to B2M
(Dicentric)

Build and Execute Your Own dGH in-Site™ Assays

Design your in-Site assay by choosing from our extensive list of subcentromere, subtelomere and gene-specific probes, or by having our Kromatid specialists create a custom probe to your specifications.

Prepare cell samples using the [dGH Cell Preparation](#) and [Metaphase Slide Preparation](#) protocols to obtain single-stranded metaphase spreads.

Hybridize your set of dGH in-Site single-stranded probes to your chromosome spreads with the [dGH Probe Hybridization Protocol](#) for the highest-quality results.

View and analyze your outcomes using standard fluorescence microscopy hardware.



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Build and Execute Your dGH in-Site™ Assays

Subcentromere and Subtelomere dGH Probes

Fluorophore	Size	Price
Atto550/Spectrum Orange	10 Tests	\$195.00
TexRed	10 Tests	\$195.00
6-FAM/Spectrum Green	10 Tests	\$195.00
Atto643/647/Cy5	10 Tests	\$195.00

Find the complete lists of dGH in-Site probes and pricing on our website:

[36 Subcentromere dGH in-Site Probes](#)

[42 Subtelomere dGH in-Site Probes](#)

CAR Gene-Specific dGH in-Site Probes

Product	Fluorophore	Size	Price
dGH™ Probe B2M (15q21.1)	6-FAM/Spectrum Green	10 Tests	\$800.00
dGH™ Probe TRAC (14q11.2)	TexRed	10 Tests	\$800.00
dGH™ Probe CIITA (16p13.13)	ATTO550/Spectrum Orange	10 Tests	\$800.00
dGH™ Probe PDCD1 (2q37.3)	ATTO550/Spectrum Orange	10 Tests	\$800.00
dGH in-Site™ Endogenous CD19	ATTO643/647/Cy5	10 Tests	\$800.00
dGH in-Site™ Custom Probe	Consult with Technical Support	10 Tests	\$6,250.00
dGH in-Site™ CAR-T Probe Kit	B2M 6-FAM/Spectrum Green; TRAC TexRed	10 Tests	\$1,500.00

KromaTiD specialists can help you:

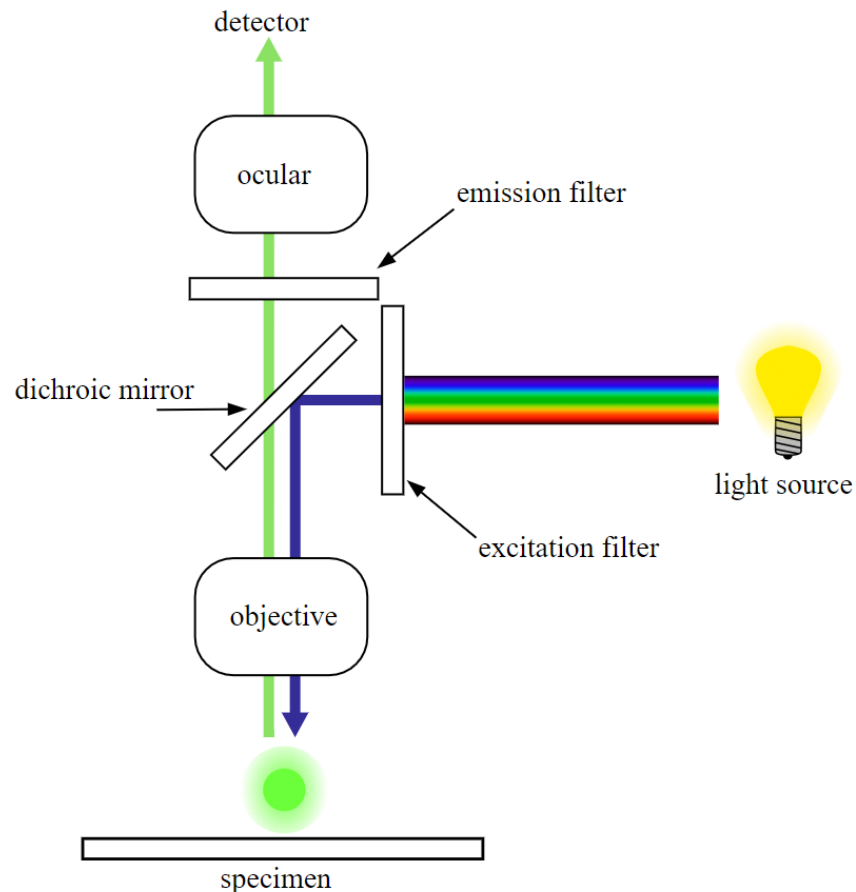
- Combine our catalog probes into a multiplexed assay uniquely designed for you.
- Design a custom probe to any genomic locus, transgene or other inserted sequence.
- Provide image and data analysis support.

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www.kromatid.com

Recommended Microscope Configuration for dGH™ Assays



Light Source: Two options

- Broad spectrum white light
- Multiple LED and/or laser sources.

Filter Cubes:

- Filters with Excitation/Emission wavelength values corresponding to the fluorophore(s) of the probes to be used.

Objective Lens:

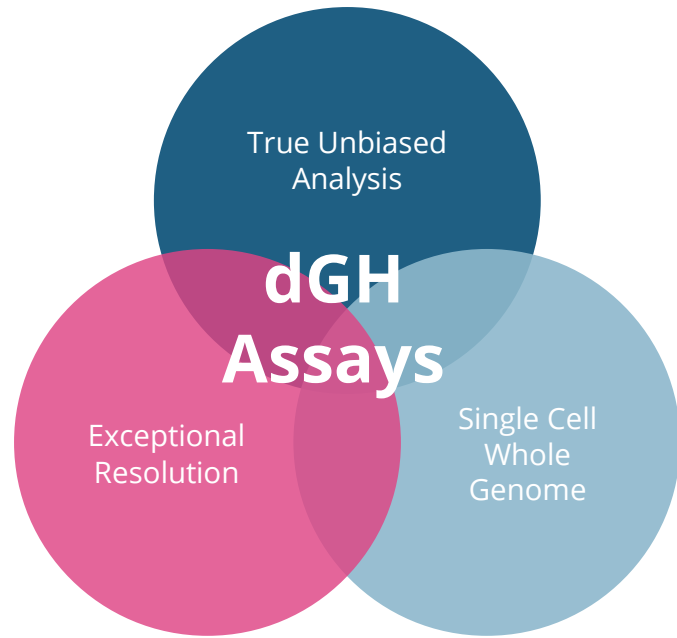
- 60X to 100X magnification
- Oil immersion
- High Numerical Aperture (NA)
- NA of 1.4 is recommended

Camera: Monochrome CMOS or sCMOS

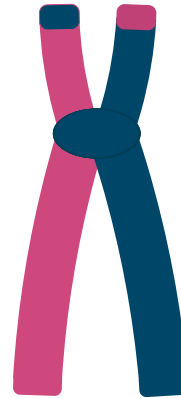
Image: By derivative work: Henry Mühlpfordt (talk)Fluoreszenzmikroskopie_2008-09-28.svg:



KromaTiD Products and Services



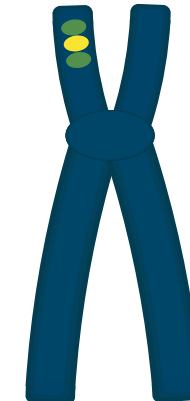
directional Genomic Hybridization (dGH™)



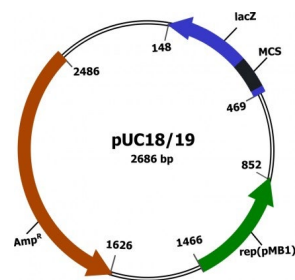
dGH SCREEN



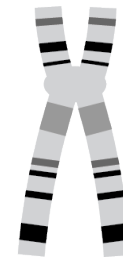
dGH DSCVR



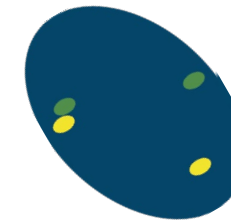
dGH In-Site



Plasmid Services



G-Banding
Orthogonal



Pinpoint FISH
Non-Dividing Cells



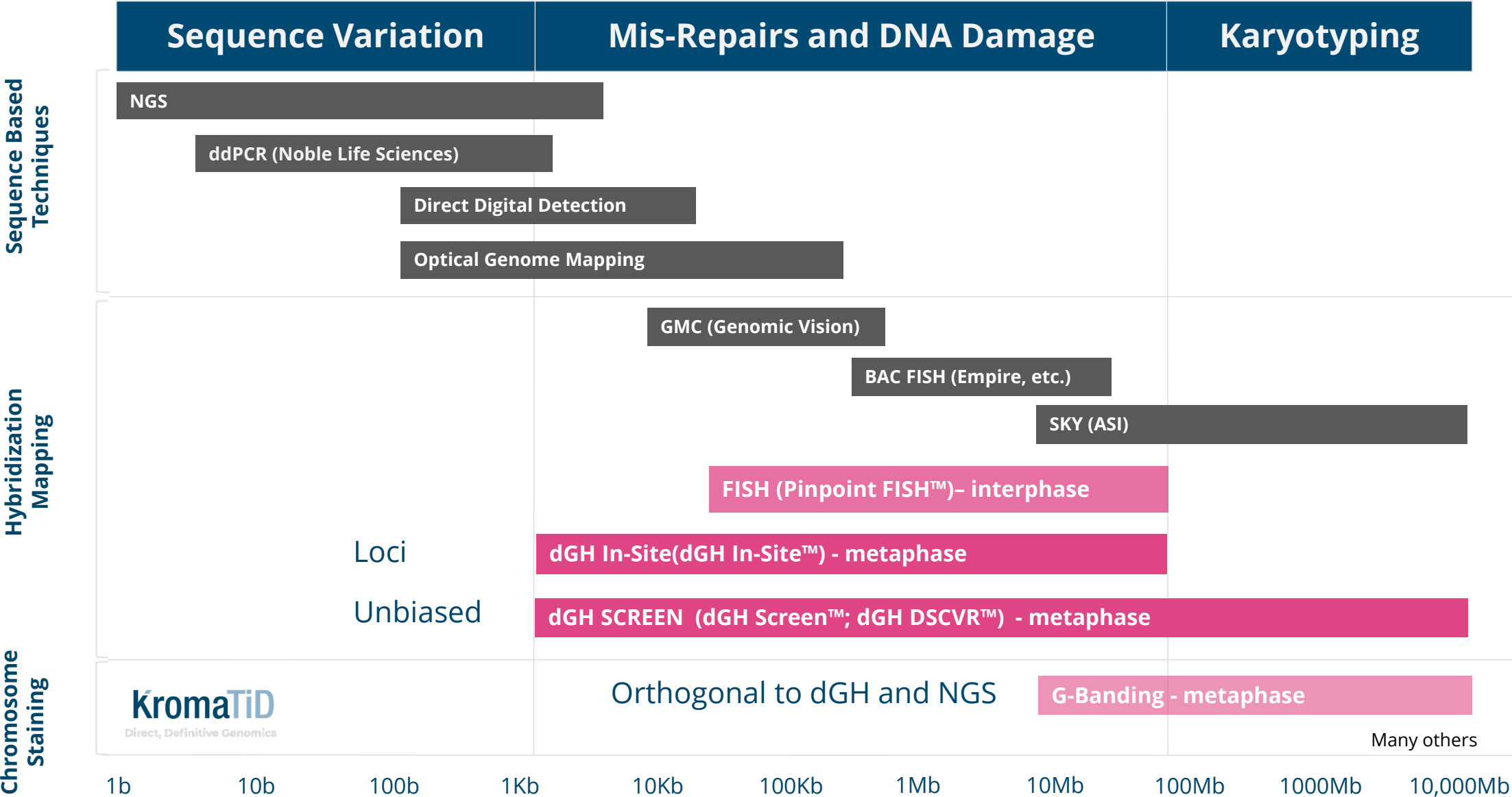
dPCR

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dGH™ Assays Detect all Classes of Structural Variants



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Thank You!

Contact us today at techsupport@kromatid.com with questions or sales@kromatid.com to order.

