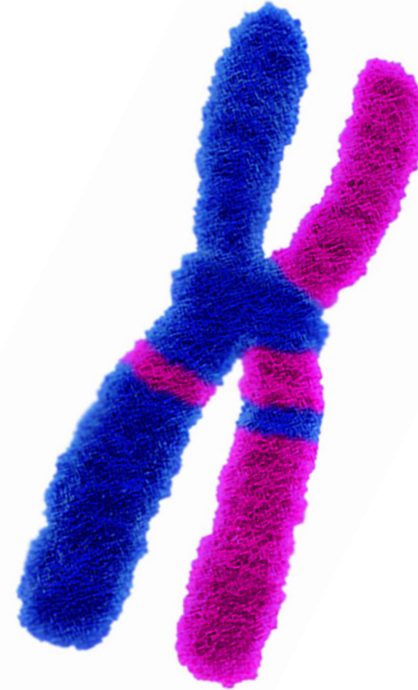


Pinpoint FISH™ Probes and Chromosome Paints



KromaTiD

Direct, Definitive Genomics



KromaTiD

Direct, Definitive Genomics

Who We Are

A team of expert scientists providing unparalleled genomics tools, services and support.

Your partner for

- Biomarker discovery
- Genotoxicity studies
- Assessment of gene editing-associated errors
- Plasmid manufacturing

Our Products

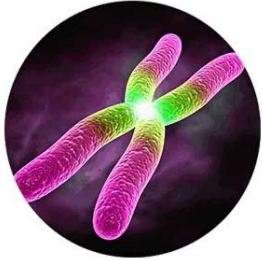
- Patented directional Genomic Hybridization™ (dGH™) technology
- An extensive collection (>700) of chromosome probes and paints
- Improve the sensitivity and specificity of your FISH assays

Our Services

- FISH assays utilizing our patented Pinpoint FISH™ and dGH™ technology
- Plasmid manufacturing (RUO, pre-GMP & cGMP)
- G-banded karyotyping
- Cell culture

What We Provide

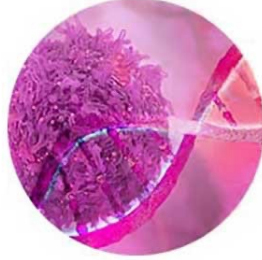
Products



[Centromere Probes](#)



[Subtelomere Probes](#)



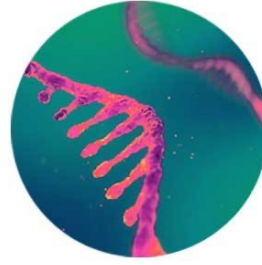
[Oncology Probes](#)



[Pinpoint FISH™ Kits](#)



[Whole Chromosome Paints](#)



[dGH Cell Prep Kit](#)

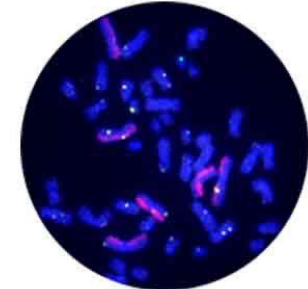
Services



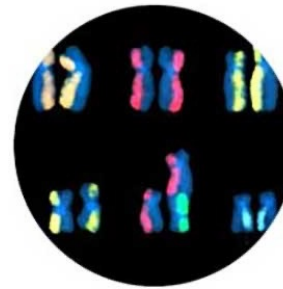
[Cell Culture Services](#)



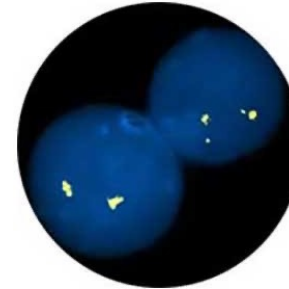
[G-banding Services](#)



[dGH in-Site™ Targeted Assays](#)



[dGH SCREEN™ Unbiased Assays](#)



[Pinpoint FISH™ Assay Services](#)



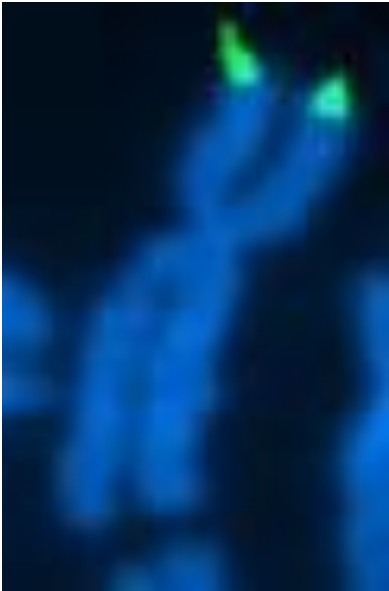
[Plasmid Manufacturing Services](#)

KromaTiD

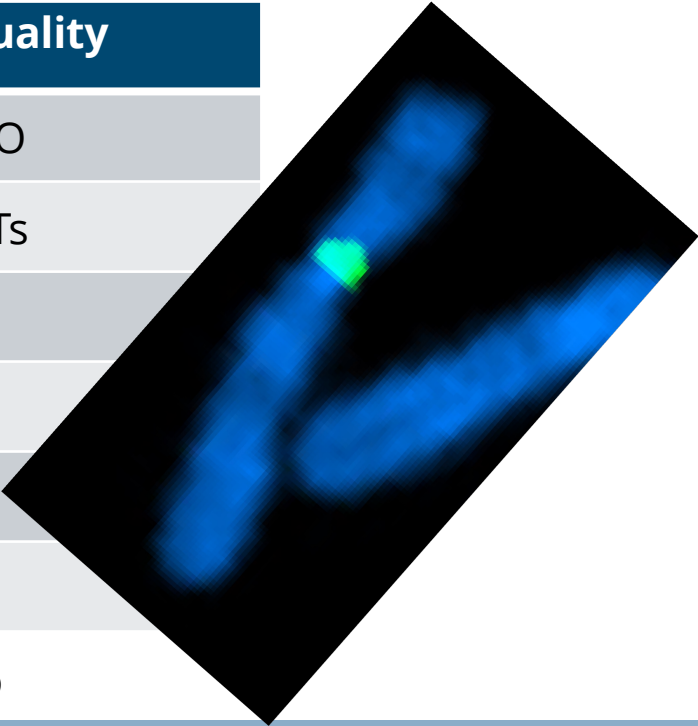
Direct, Definitive Genomics

Pinpoint FISH™

- A fully synthetic FISH technology based on single stranded, fluorescently-labeled DNA oligonucleotides
- Pinpoint FISH runs on standard cytogenetic systems, requires no special equipment, and produces data indistinguishable from BAC FISH.



Sample Types	Fluorophores	Events	Quality
FFPE	Atto550	CNVs	RUO
Dissasociated Cells	TxRed	Deletions	LDTs
Haematological Samples	6FAM	Fusions	
Perinatal Samples	Atto643	Amplifications	
Tissue Sections	Atto425		
Metaphase Spreads	Custom		



GM 15510 (B-lymphoblastoid Cell Line): Chromosome 7p sub-CEP; Chromosome 2 sub-telo

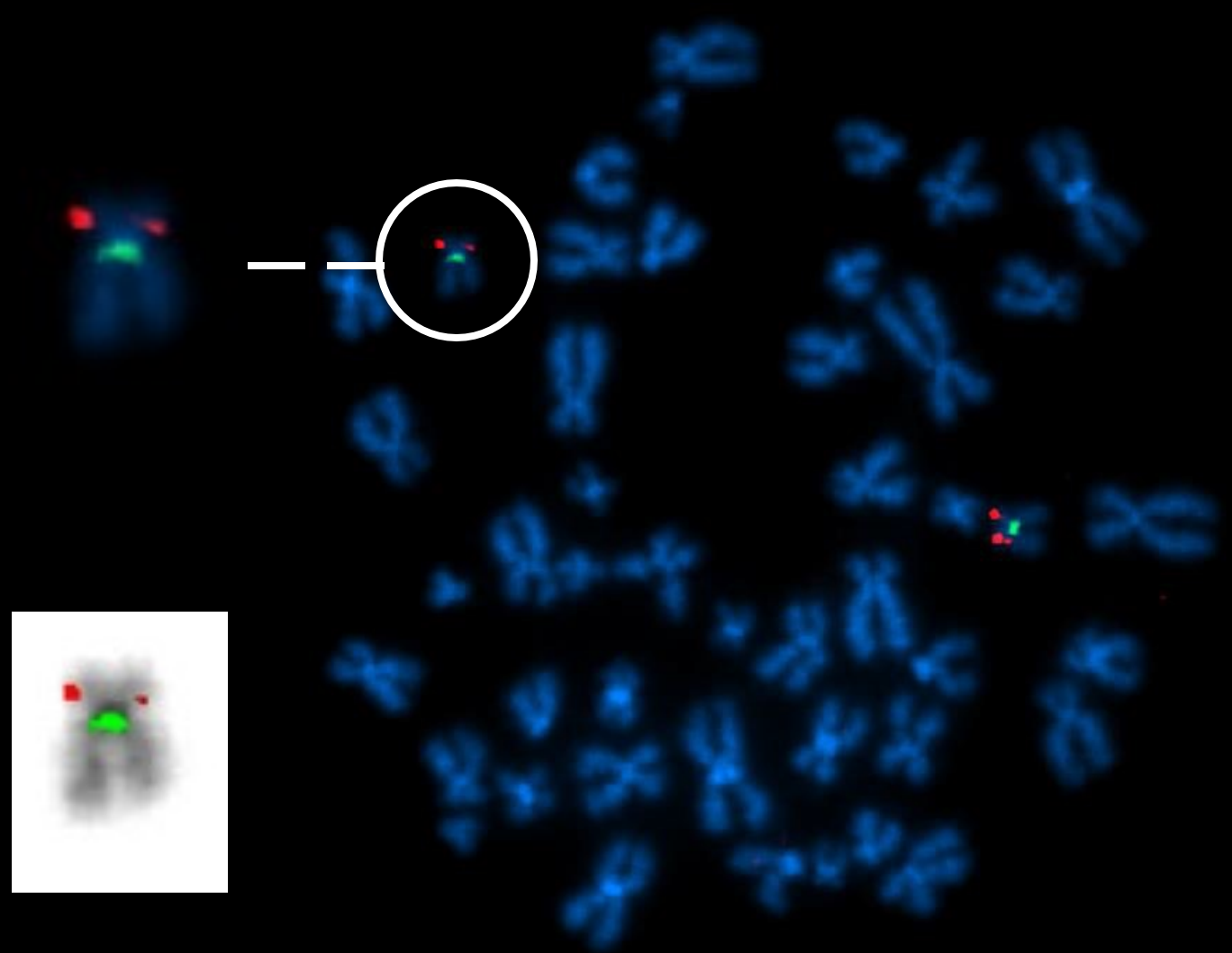
Pinpoint FISH™ vs. BAC FISH

Pinpoint FISH	BAC FISH
Fully synthetic	Cloned
Single-stranded	Double-stranded
End-labeled	Side-labeled
Controlled, narrow T_m range	Wide T_m range
No repetitive sequences (No COT)	Requires repetitive blocking (COT)
Customizable designs to target any genomic locus	Design defined by BAC library
Pinpoint resolution (< 10 kB)	Resolution > 100kB
Time from design to a qualified PPF probe: 3-4 weeks	Time from design to a qualified BAC probe: ???
No cross-hybridization to competing loci	Probe specific cross-hybridization
Inter-operable with BAC FISH Probes	Inter-operable with PPF Probes

KromaTiD

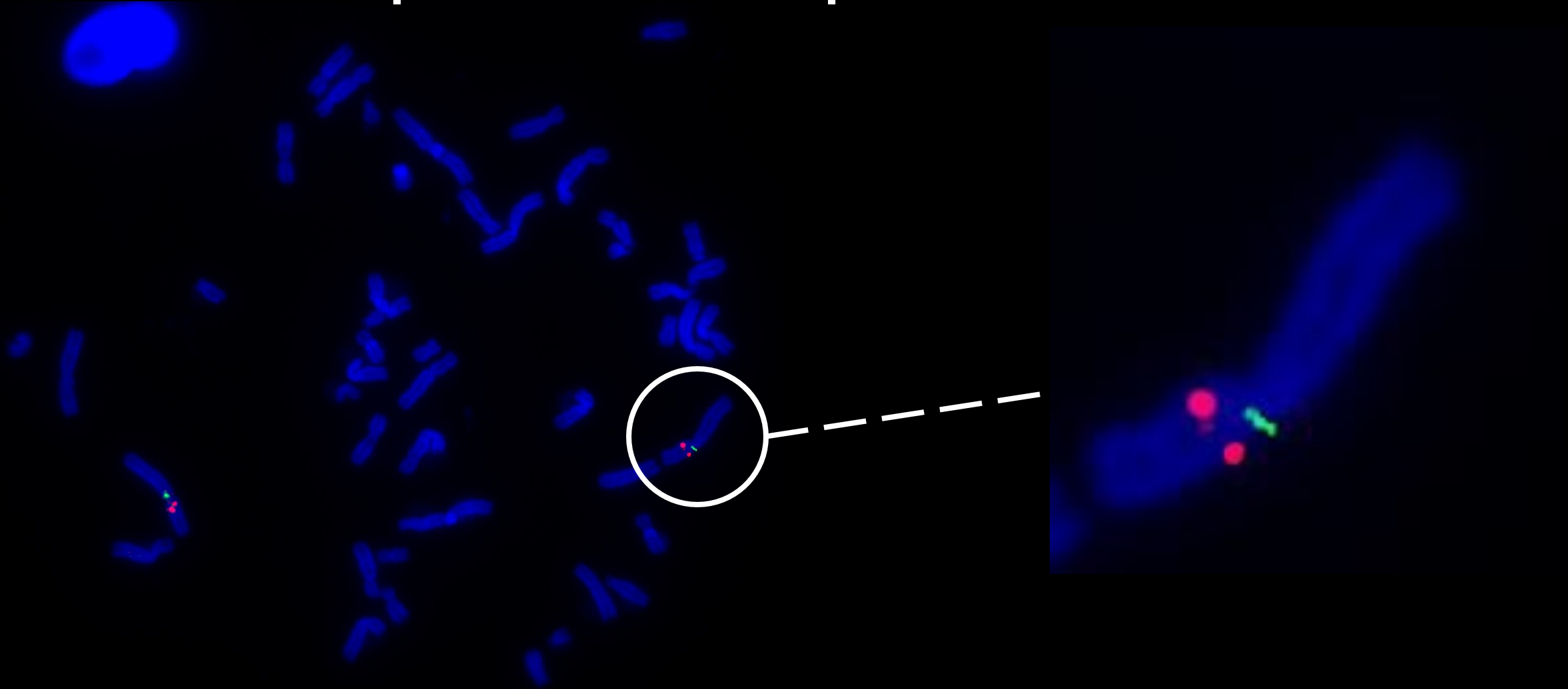
Direct, Definitive Genomics

Pinpoint FISH™ tp53/CEP17 Multiplexed Analysis



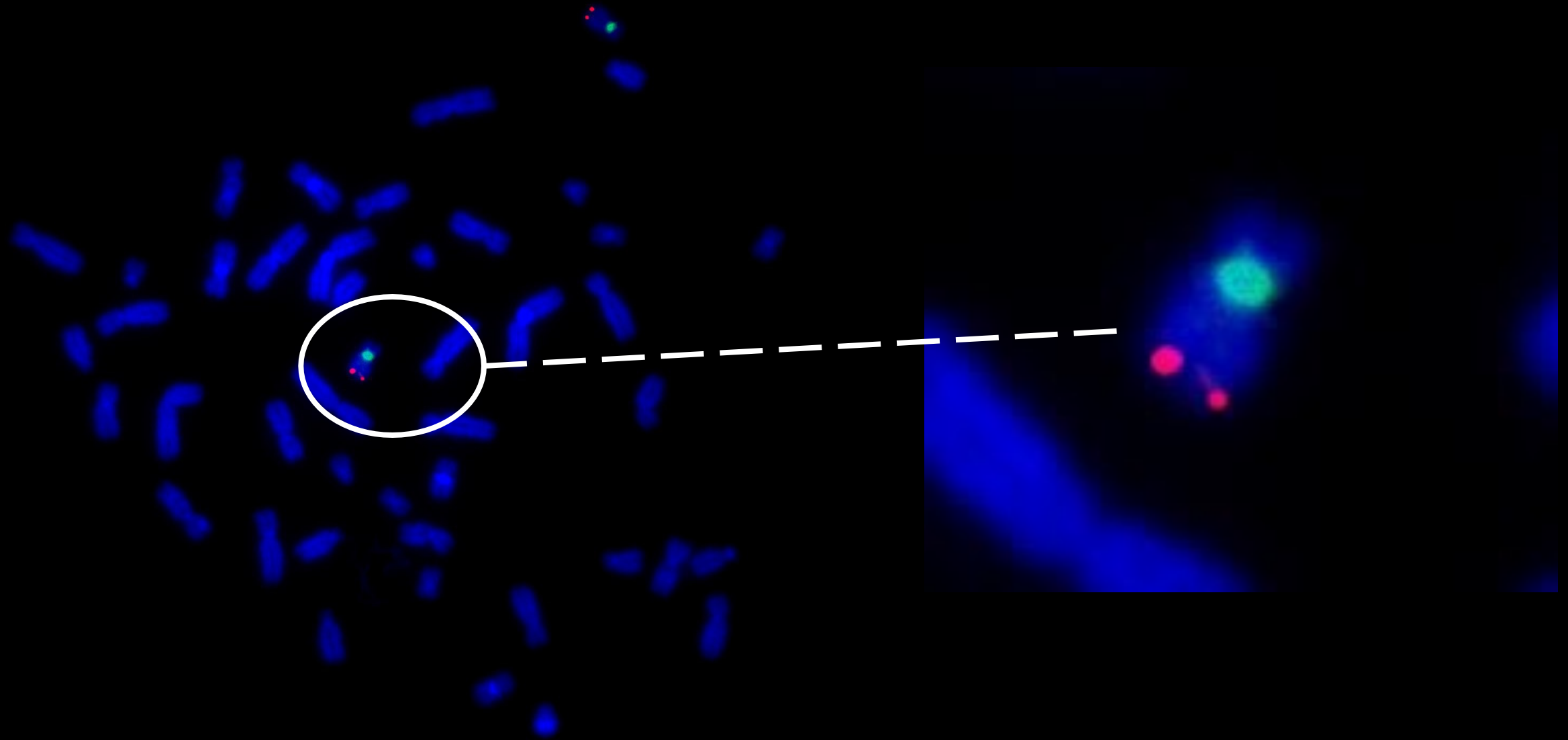
GM 15510 (B-lymphoblastoid Cell Line): tp53 – Atto550, CEP17 – 6FAM

Pinpoint FISH™ Multiplex with BAC Probes



KromaTiD Oligo PPF Probe Chr2 DCTN1 (~30kB target size), Chr2 BAC Control (~170kB target size)

Pinpoint FISH™ Multiplex with BAC Probes



KromaTiD Oligo Probe Chr17 (~10kB target size) Chr17 BAC Control (~130kB target size)

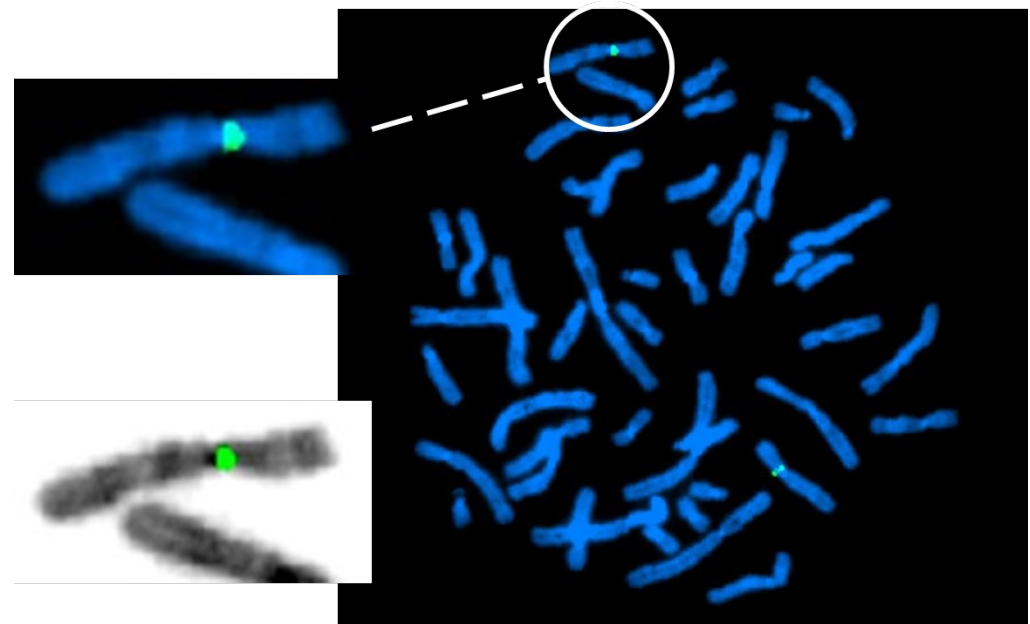
Centromere Enumeration Probes (subCEPs)

Centromere Enumeration Probes (subCEPs) are available from KromaTiD for human chromosomes as standard products.

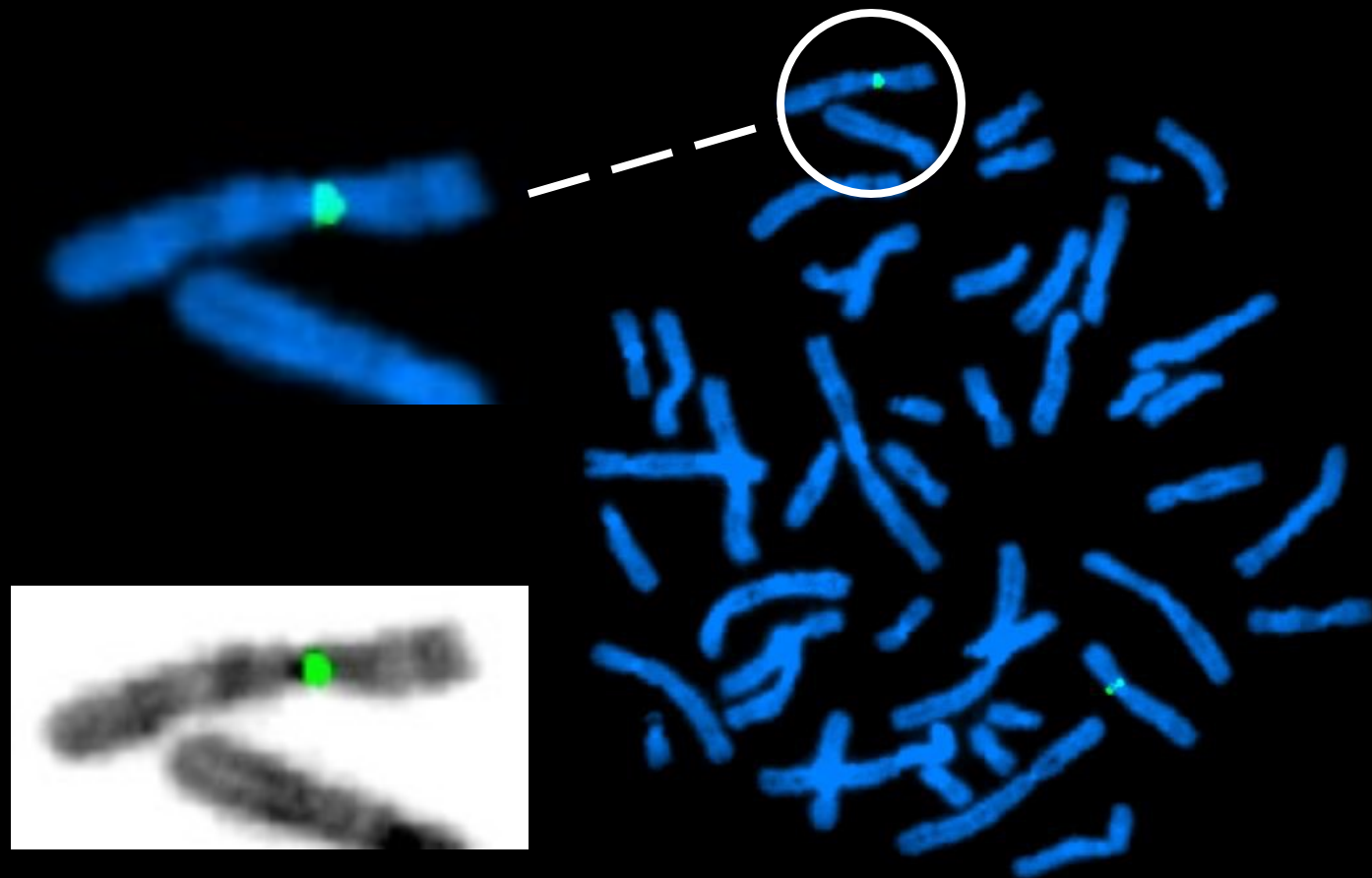
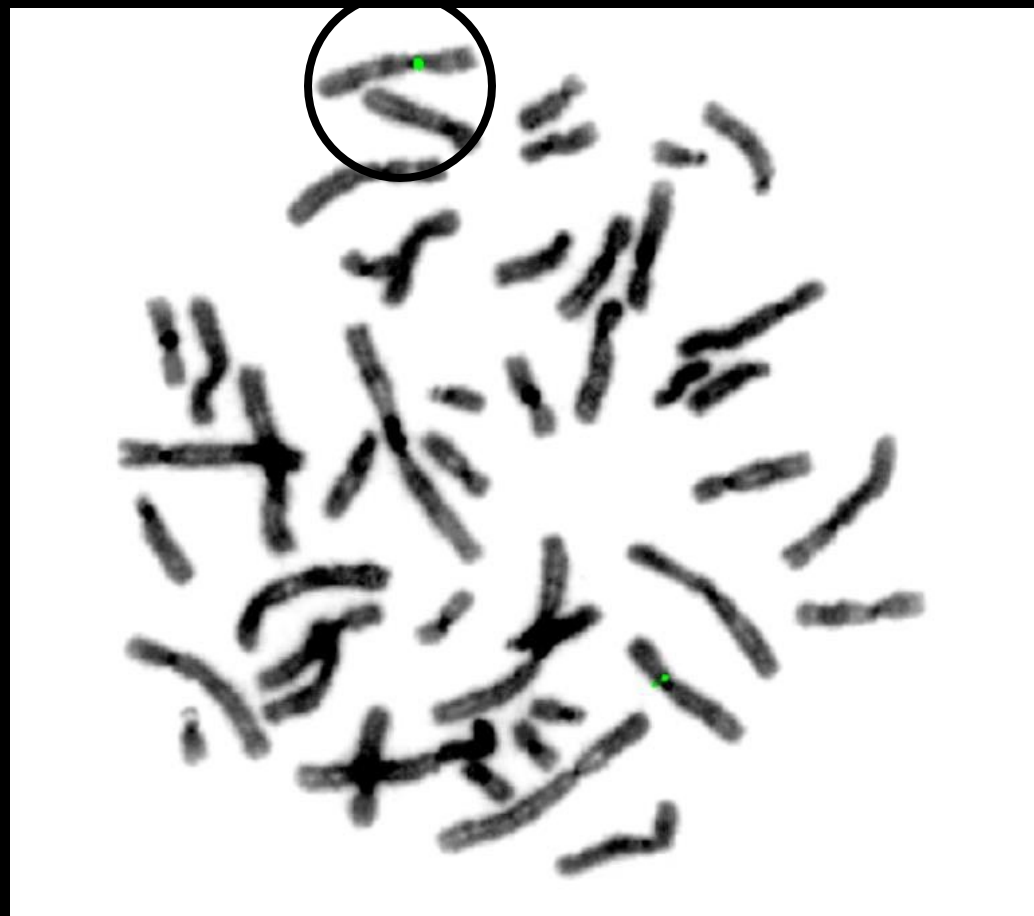
KromaTiD subCEPs make use of **pericentric non-repetitive genomic DNA** to provide a uniform signal from chromosome to chromosome.

Over 260 subCEP probes are available:

- For all chromosomes, p & q arms
- Conjugated to any of 5 fluorophores
- Custom conjugation available



subCEP Probe: Chromosome 7p



GM 15510 (B-lymphoblastoid Cell Line): Chromosome 7p subCEP – 6FAM

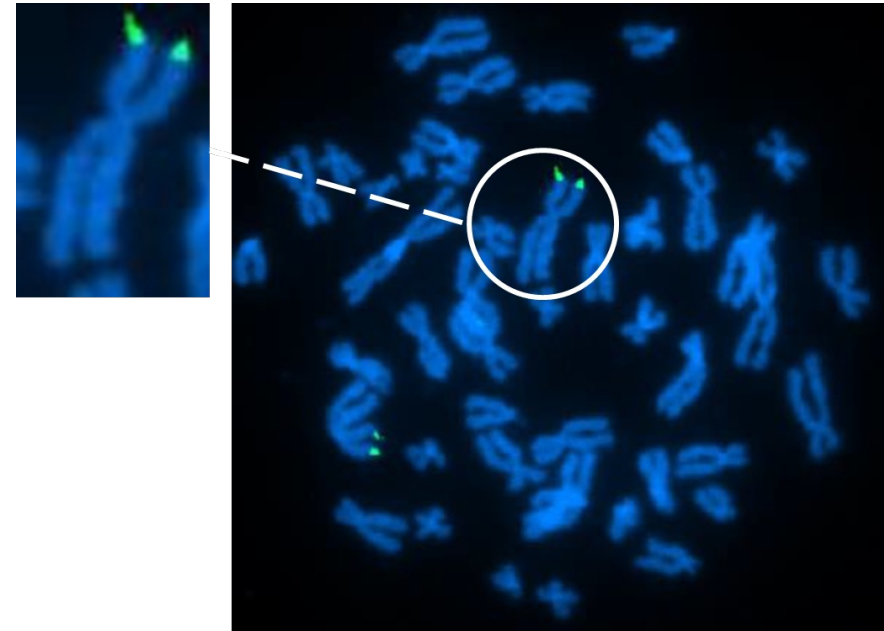
Subtelomere Probes

KromaTiD Subtelomere Probes are available for human chromosomes as standard products. Probes for other sequenced species are available by request.

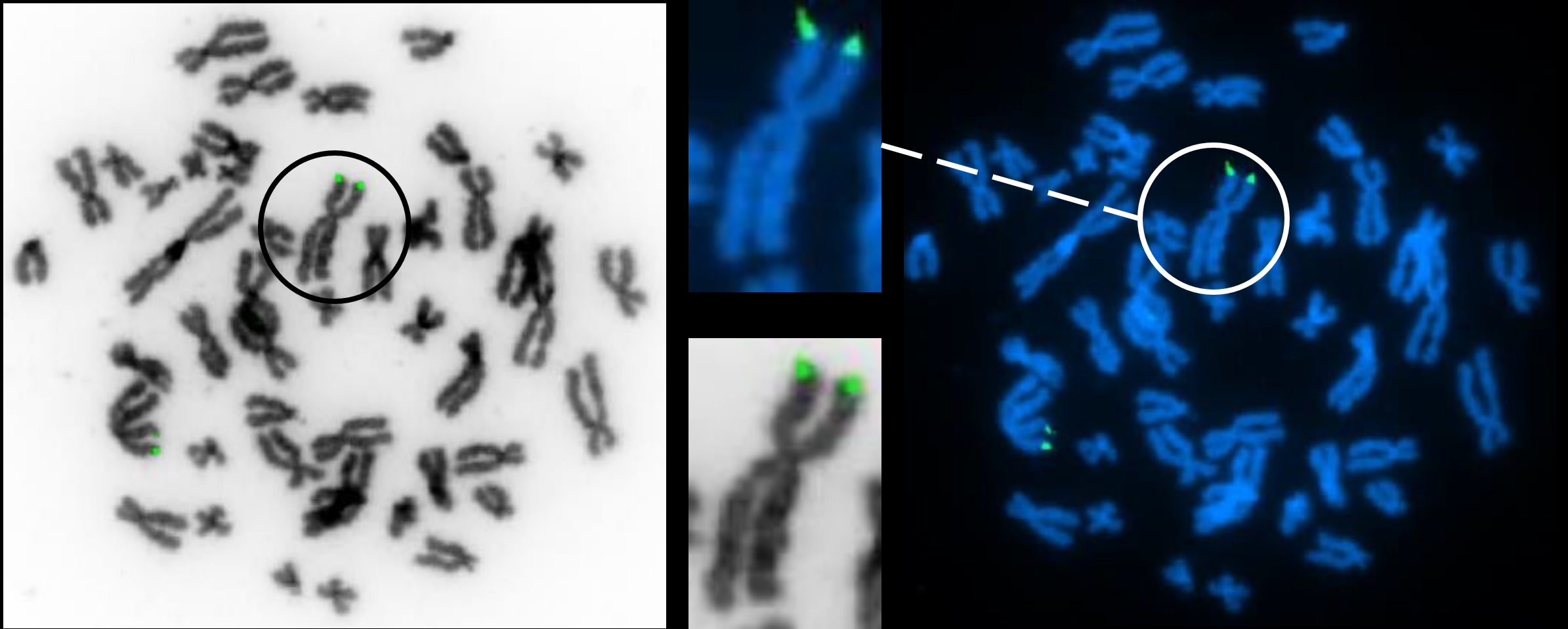
Our Subtelomeres make use of **pericentric non-repetitive genomic DNA** to provide a uniform signal from chromosome to chromosome.

Over 270 subTEL probes are available

- For all chromosomes, p & q arms
- Conjugated to any of 5 fluorophores
- Custom conjugation available



Subtelomere Probe: Chromosome 2p



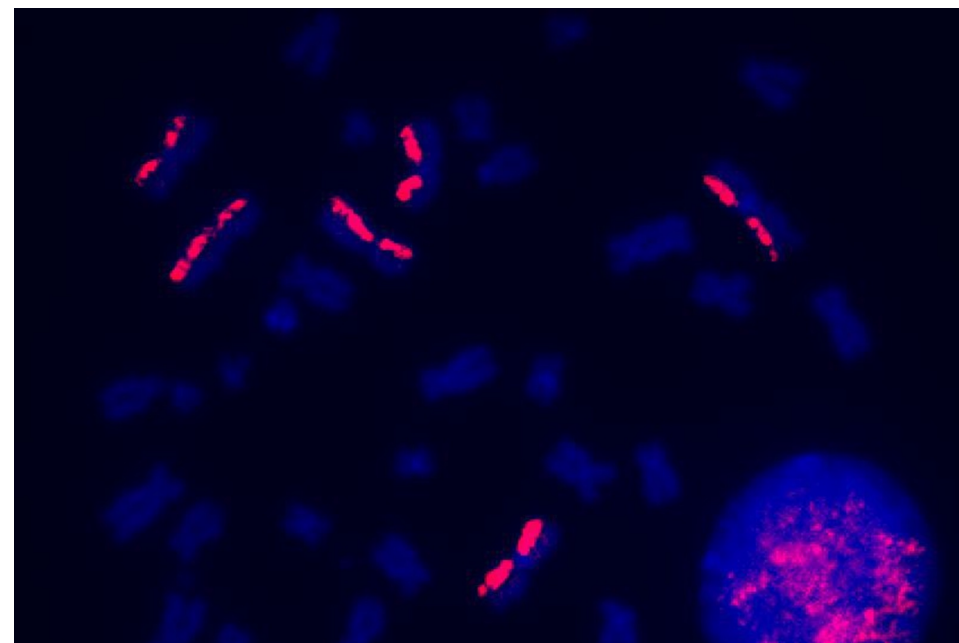
GM 15510 (B-lymphoblastoid Cell Line): Chromosome 2p Subtelomere – 6FAM

Human Whole Chromosome Pinpoint FISH™ Paints

KromaTiD's bioinformatic probe design process makes use of non-repetitive genomic DNA to provide a uniform signal from chromosome to chromosome.

Over 140 chromosome paint products are available

- For all chromosomes
- Conjugated to any of 5 fluorophores
- Custom conjugation available



KromaTiD

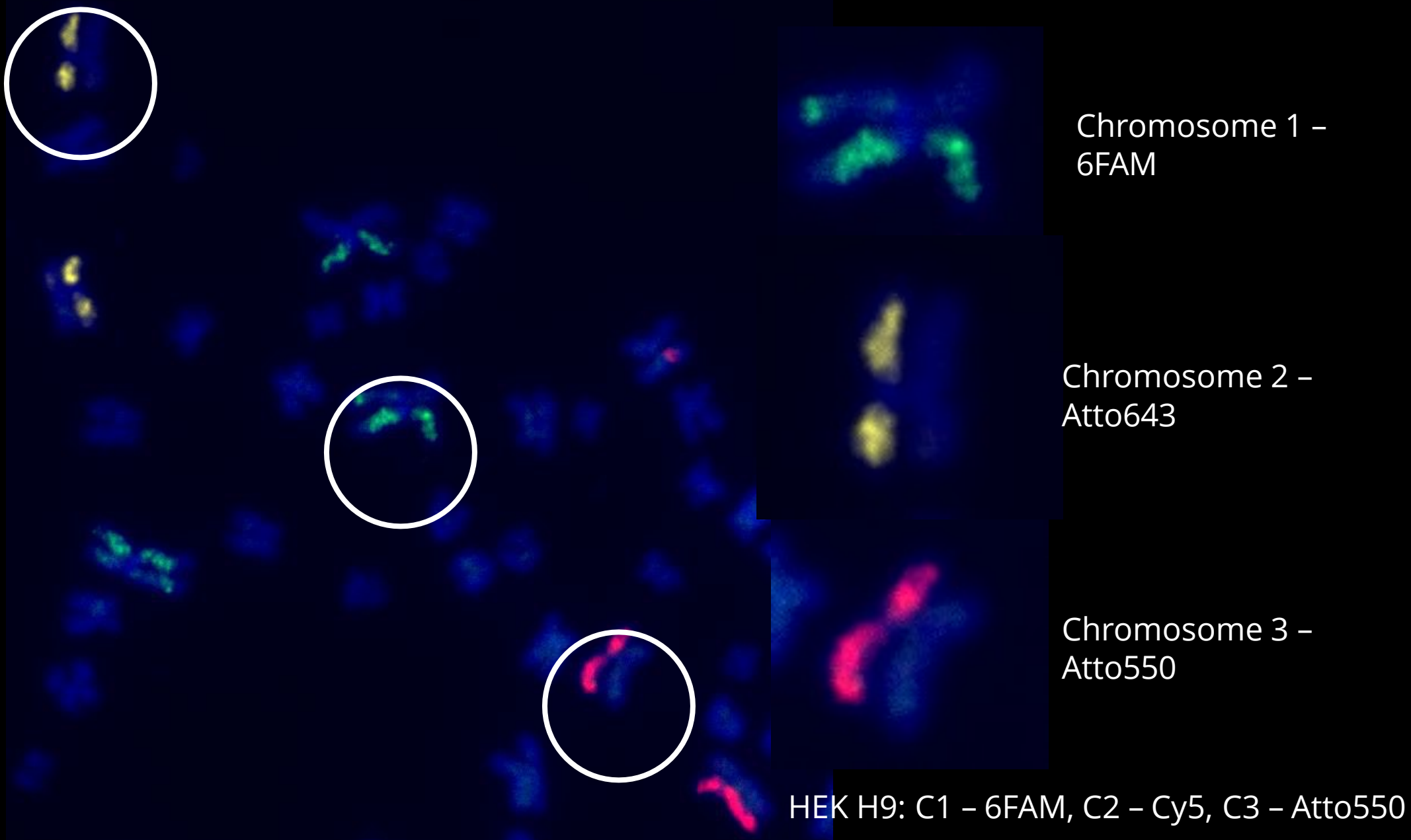
Direct, Definitive Genomics

Human Whole Chromosome Paints



Confidential Customer Sample: Chromosome 1,2 and 3 Paints – Atto550

Human Whole Chromosome Paints Chr1, 2, 3



Discovery & Identification of SV in Udx Patients

Phenotype:

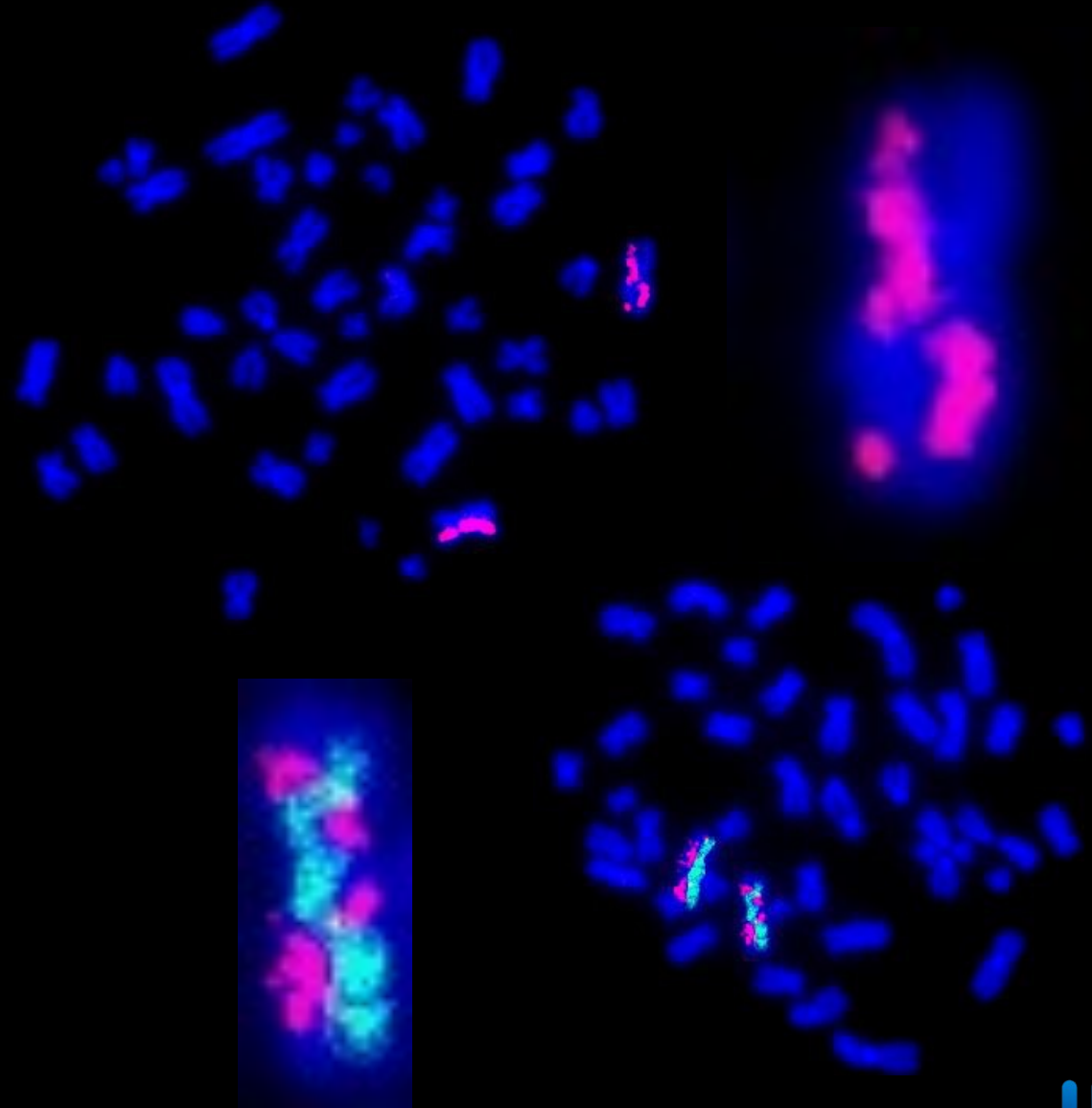
- Dysphagia
- Muscular atrophy/ hypoplasia
- Recurrent exacerbations

Structural variants detected:

- Paracentric inversion with variable breakpoints detected on chromosome 2 in 30% of cells

Involved genes:

- DCTN1 (2p13.1)
- Previously identified by WGS in Udx patient and offspring to have point mutations.
- DCTN1 gene mutations are associated with distal motor neuropathy type VIIB.



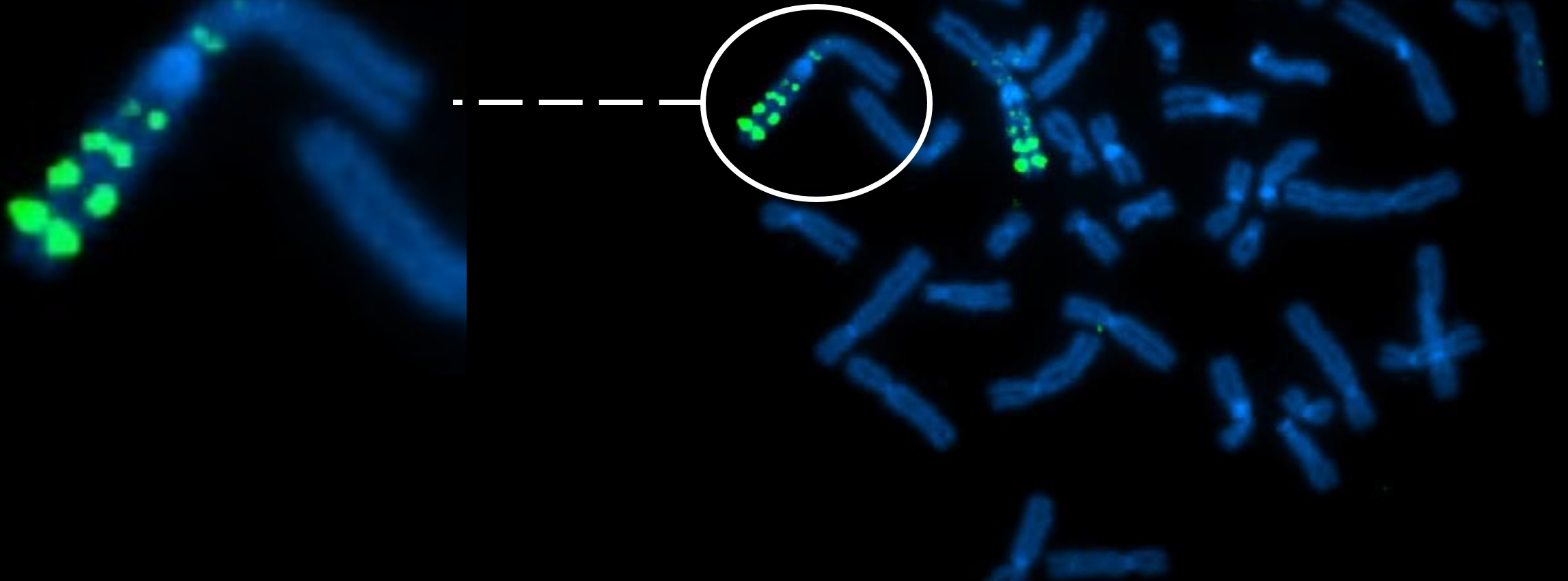
Custom Probes for any Genomic Locus

Custom Pinpoint FISH™ Probe	Characteristic
Design constraints	None
Target lower limit of detection	2kB
Design to qualified PPF probes	3-4 weeks
Label Options	Atto Family or Custom
Inter-operability	BAC FISH Probes
Multiplexing	Yes: multicolor panels
Specificity	No cross hybridization

KromaTiD

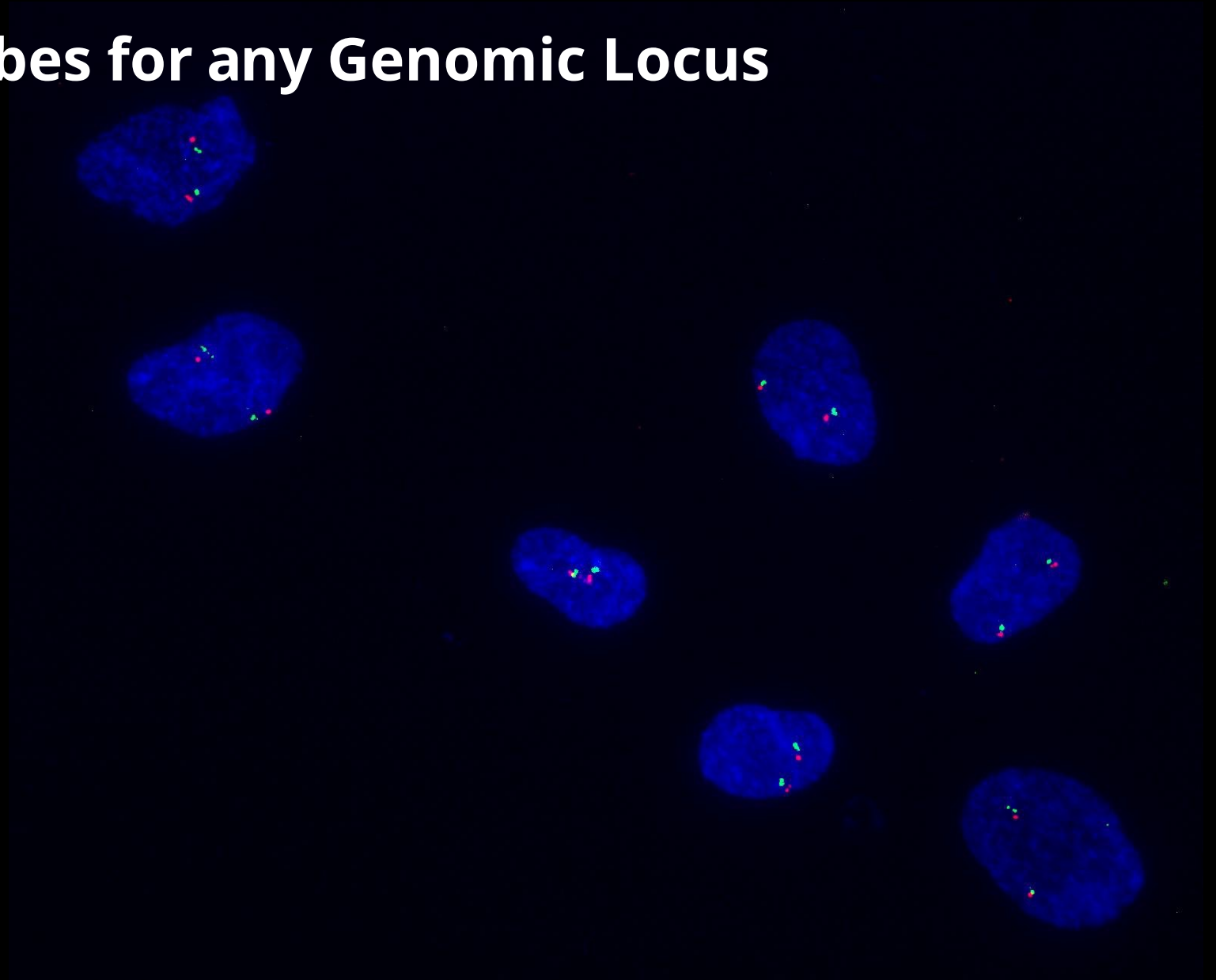
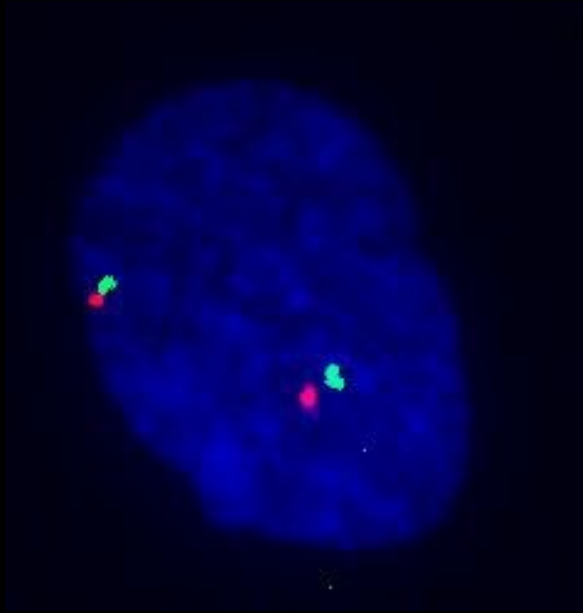
Direct, Definitive Genomics

Customizable Pinpoint FISH™ Tools



GM 15510 (B-lymphoblastoid Cell Line): C1 descending oligo quantity ladder – 6FAM

Probes for any Genomic Locus



Confidential Custom Probes: Disassociated Spleen Cells CEP 18 Green; Confidential Red

Pinpoint FISH™ Probe and Paints Pricing

Chromosome Paint Labels	List Price
6FAM/Spectrum Green	\$145.00
TexRed	\$145.00
Atto Labels	\$155.00
Probe Labels	List Price
6FAM/Spectrum Green	\$145.00
TexRed	\$145.00
Atto Labels	\$150.00

Working with KromaTiD is Simple



Example workflow with KromaTiD running in-Site™ or alternative assays on engineered lines in-house.

KromaTiD is committed to **collaborative excellence** through dedicated project management and **expert technical analysis**.

- Customer
- KromaTiD
- KromaTiD & Customer

Why You Win With Us



Collaboration: The trusted structural genomics partner for leading gene therapy innovators

Performance: Gold standard products for the measurement of genomic structure and structural variation

Scalability: End to end process automation, high-throughput analysis, AI meta-analysis

Excellence: Experienced team of 20 operating today in a world class, 11,000 square foot genomics facility

Proprietary: Issued patents, broadened applications, trade secret methods, proprietary bioinformatics

Thank you!

