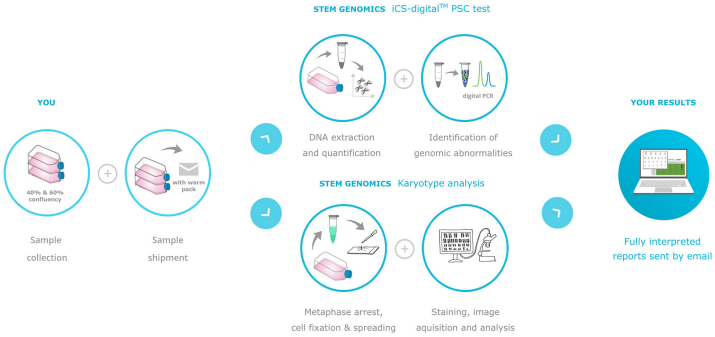
Duo iCS-Karyo : iCS-digital™ and G-Banding Karyotype combined analysis

Duo iCS-Karyo is the unique association of G-banding karyotyping and iCS-*Digital™ PSC* from Stem Genomics that will assess the genomic integrity of your cells with great precision. The two technologies combined provide you with a high-resolution detection of the most recurrent altered regions in hPSCs, with a high sensitivity and exhaustivity of structural and numerical variants analysis.

Combining both technologies will provide you with the usual structural rearrangement analysis the G-Banding karyotype offers, such as balanced and unbalanced translocations, deletions, insertions, and inversions. It will also ensure that you capture the most frequent genomic defects at high resolution such as the sub-karyotypic 20q.11.21 amplification, which accounts for 20% of hPSC abnormalities detected worldwide (Avery et al., 2013; Halliwell et al., 2020).



We remain contactable throughout the process and will communicate with you within 2 working days of cells' reception regarding the quality check outcome.

CELL TYPES	STAGES	SAMPLES	SHIPMENT	DETECTION	TIME
Live cells	- Acquisition of a new cell line - Banking characterization - End of workflow	1 T25 flask at 40% confluency + 1 T25 flask at 60% confluency + 50mL of media	Room temperature (with warm pack)	iCS-digital™ PSC test : - The most frequent abnormalities observed in hPSCs (CNVs) >20% mosaicism - Sub-karyotypic abnormalities (>200 bp) Karyotype : - Balanced and unbalanced translocations - Aneuploidy - Inversions - Duplications / deletions - Detect abnormalities >5-10 Mb and 10% mosaicism	20 days from sample reception*

**Assuming the samples sent meet the requirements of the sample collection and shipment instructions (see our Resources page).*

DUO ICS-KARYO: A HIGH PRECISION GENOMIC INTEGRITY TEST !

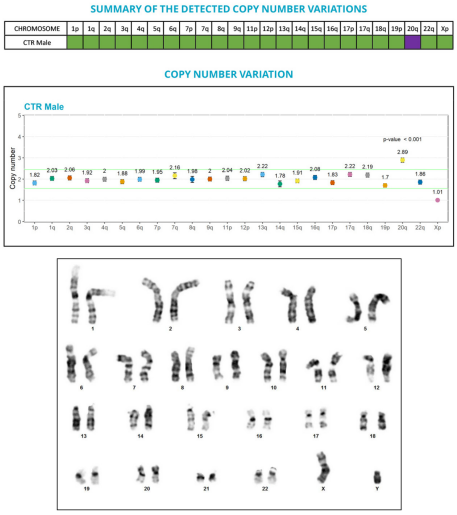
G-banding karyotyping alone is not enough when it comes to detecting the smallest defects. Make sure you don't miss out on the most recurrent abnormalities in hPSCs !

Karyotyping is the most commonly used technique for large structural abnormalities detection in hPSCs. However, it can miss abnormalities smaller than 5-10 Mb. That's where the iCS-digital™ PSC test comes in !

Dedicated to human pluripotent stem cells (iPSC and ESC), the iCS-Digital™ PSC 24 probes test detects more than 90% of recurrent abnormalities in hPSC lines at high resolution, notably the sub-karyotypic 20q11.21 amplification.

Combining both technologies provides you with the reassurance you need for publications, bank characterization or, for cell providers, when your clients ask for a quality control guarantee on the lines you sell.

On the right :
Top graph: the iCS-digital™ PSC-24 probes report, showing a sub-karyotypic abnormality on chromosome 20q.
Bottom graph: example of a normal karyotype analysis for the same sample.



Live cell requirements

Live cell sample are required for the *Duo iCS-Karyo* test. We will provide full processing services, from simultaneous metaphase chromosome preparation and DNA extraction, down to the final reporting.

The final analysis will be provided to you by email in 20 working days* from receipt of your live cells. It will consist of fully interpreted reports with representative images and a summary of the analysis.

You will also be able to lean on our team of experts in PSCs genomic analysis for any queries you could have throughout the process.

** Assuming the samples sent meet the requirements of the sample collection and shipment instructions. Please note that we will not be able to plan the work on your cells without advanced notice. Contact us at least one week before sending your samples to avoid disappointment.*

For research use only.

With a unique combination of two technologies adapted to PSCs, Duo iCS-Karyo from Stem Genomics offers a reliable and specific analysis for a total confidence in the genomic integrity of your cell lines.

stemgenomics cell integrity

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