

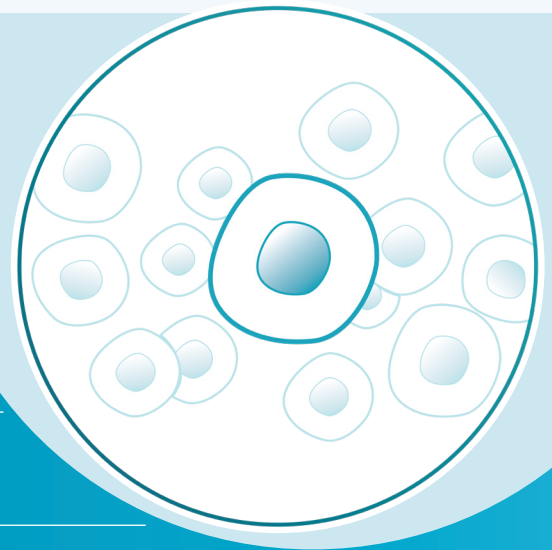


Quickly monitor pluripotency and differentiation

Monitoring differentiation and identifying pluripotent stem cells are fundamental aspects of any pluripotent stem cell culture. Numerous publications in the scientific literature suggest genes and cell surface antigens that can be used for this purpose, along with a variety of available assays and methods. This can lead to confusion. With the *Pluri-digital™* assay, Stem Genomics helps scientists monitor the undifferentiated markers cited by the ISSCR with a simple, cost-effective, and rapid solution. This test provides valuable insight into the differentiation of a cell line, from its undifferentiated state to its trilineage differentiation profile, in just 5 days.

Pluri-digital™ key features and benefits:

- Detects **4 undifferentiated and 12 differentiation marker genes** selected from the ISSCR Standard recommendations and other relevant scientific publications. These genes correspond to the undifferentiated stage and the three germ layers.
 - Undifferentiated genes: **NANOG, DNMT3B, SOX2, POU5F1/OCT4**
 - Ectoderm genes : **MAP2, PAX6, EN1, NEFL**
 - Mesoderm genes: **HAND1, CDH5, MYOG, TBXT**
 - Endoderm genes: **AFP, FOXA2, SOX17, SST**
- Available **as a service only**, results are delivered within a lead time of **5 business days**.
- You can **choose** to check only the **undifferentiated status** of your cell line **and/or** their **trilineage differentiation profile**. If you'd like us to do both, two separate samples will be required.
- Possibility of **combining the assay** with our **genomic stability tests, cell authentication** and **mycoplasma detection** at **attractive rates**.

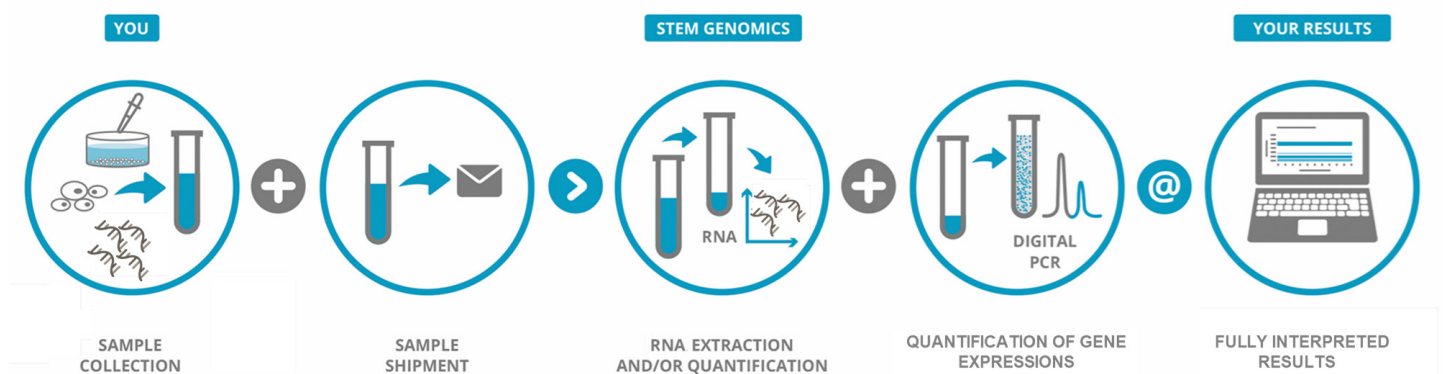


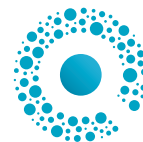
Technology used

Digital-PCR technology was selected for its high sensitivity, which provides strong confidence in results compared with other techniques. The 10,000 to 20,000 RNA copies analyzed simultaneously enable clear expression levels, helping in decision making. Appropriate positive and negative controls are run and confirmed for each submitted sample.

How does it work?

We can work with several types of cell lines: embryoid body differentiated cell lines, undifferentiated pluripotent cell lines and differentiated cell lines not coming from embryoid bodies. You then have the choice between sending RNA, cells in RLT buffer or a frozen cell pellet in dry ice ($\geq 500,000$ cells). Whatever you prefer, we'll take it from there!





Is it possible to ask for the detection of different genes ?

Targeting different genes would imply a [test redesign, customized to your needs](#). It is possible but at additional cost and longer lead times.

Is the test available as a kit ?

Not yet, but a kit will likely be developed in the near future to support clients who have access to a digital PCR machine in-house.

How much does it cost ?

The price is available on request and will vary depending on [the quantities ordered](#). [Bulk discounts](#) are also available when ordering [more than one type of assay](#) at the same time.

Is this test sufficient to demonstrate that my cell line is pluripotent ?

Our test is designed in accordance with ISSCR recommendations and the standards set by peer-reviewed journals for a [molecular assessment of pluripotency](#). It helps you [monitor the differentiation process](#) of your cell line by assessing the expression of [specific cell surface markers](#). Since these markers may also be present in other cell types (e.g. nullipotent stem cells), we recommend complementing the *Pluri-digital*™ test with a [functional assay](#) (e.g. in vitro embryoid body formation) to [experimentally demonstrate pluripotency](#) attributes prior to publication or at the end of an RUO workflow.

Can you support stem cell researchers with other useful assays besides pluripotency that we can integrate into our QC ?

In line with the [ISSCR's latest quality standard](#) recommendations, we strongly suggest regularly checking the [genomic stability](#) of your stem cells during their time in culture with our digital PCR *iCS-digital*™ range, G-Banding and/or our NGS solution for CNV and SNV detection. [Mycoplasma](#) testing is also critical for robust science and we have a digital PCR solution called *Myco-digital*™ that can do that for you. Last but not least, [cell authentication](#) by STR needs to happen at critical stages in your workflow to ensure the cell line you're working on has not been cross-contaminated or mislabeled.

For research use only.

For more information,
please contact us at

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