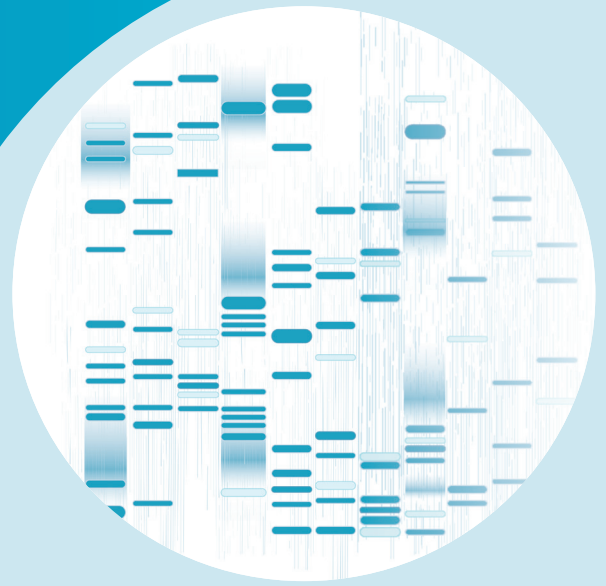


## Short Tandem Repeat (STR) test by Stem Genomics

Cell line authentication is an important test to be performed on human cell lines to confirm that you are working on the expected material. The risks of [cross-contamination](#) in the laboratory are high. [Mislabeling](#) can happen too. Short Tandem Repeat (STR) is an [internationally recognized method](#) that analyses short and repeated DNA sequences to establish a [unique genetic profile](#). The STR service offered by Stem Genomics will enable you to establish the [individual profile of your cell line](#) and compare it with the [donor profile](#) or compare the cell identity [at various passages](#). By performing an STR analysis, you will [gain confidence](#) in the material you use in your research and comply with [good practices](#) in the field, as well as with [funding agency](#) and [journal](#) requirements.

### Key features and benefits of STR by Stem Genomics:

- **16-locus** analysis (15 detection loci + 1 sex determination marker (Amelogenin))
- Cell line cross-contamination to **<2%** (sensitivity: 85.10% and positive predictive value (PPV) = 97.5%)
- **3 business day** lead time
- Possibility of **combining it** with our genomic stability tests (ICS-digital and Duo ICS-Karyo) and to perform the analysis on the same sample

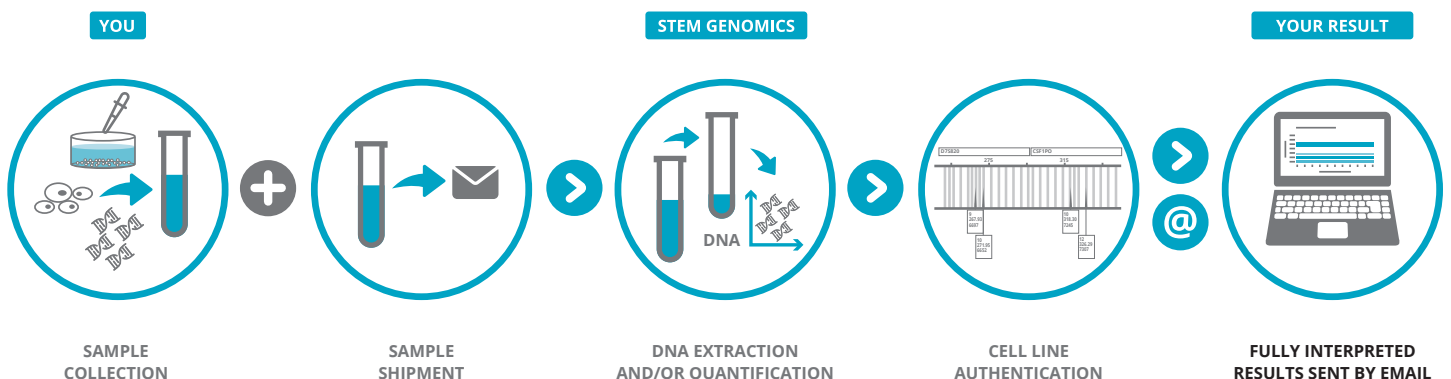


### Technology used

Cell line samples are amplified with the commercially available [CLA Identifiler™ kit](#) from [ThermoFisher](#). Processing is done with the [SeqStudio Genetic Analyzer](#). Data is analyzed using [GeneMapper®](#). Appropriate [positive and negative controls](#) are run and confirmed for each submitted sample.

### How does it work?

You have the choice between sending [DNA](#) at room temperature ( $\geq 10$  ng/ $\mu$ L if dosed by Qubit or  $\geq 50$  ng/ $\mu$ L if dosed by Nanodrop, and a volume  $\geq 40$   $\mu$ L) or a [cell pellet](#) on dry ice ( $\geq 500,000$  cells). Whatever you prefer, we'll take it from there!





## Is STR the only valid method for human cell line authentication?

STR is not the only possible method for cell line authentication. However, it is the most commonly used and the only one that has obtained [international consensus](#). It is [recommended by several official institutions](#) such as the [ISSCR Standards for Stem Cell Research](#) (International Society for Stem Cell Research), the [ATCC Standards Development Organization](#) or the [Elsevier Scientific guidelines for lab resources](#), to name a few.

## How often should STR be performed on a cultured cell line?

The ISSCR encourages checking your cell line identity [at least quarterly and ideally monthly](#) for cells that undergo [significant manipulations](#) such as gene editing, clonal isolation, etc. It is also recommended when [establishing the Master Cell Bank, at the end of studies and before publication](#). In addition, we recommend combining it with [routine genomic stability testing](#) (like our iCS-digital test) every 5 passages during culture and after stressing manipulations.

## Is the assay relevant to all stem cell types?

Absolutely. It is possible to perform STR [on any cell type](#) (stem cells, CAR-T cells, NK Cells, etc.) Case in point, the guidelines from the ISSCR refer to all human stem cell types.

## Can you support stem cell researchers with other useful assays outside STR that we can integrate in our QC?

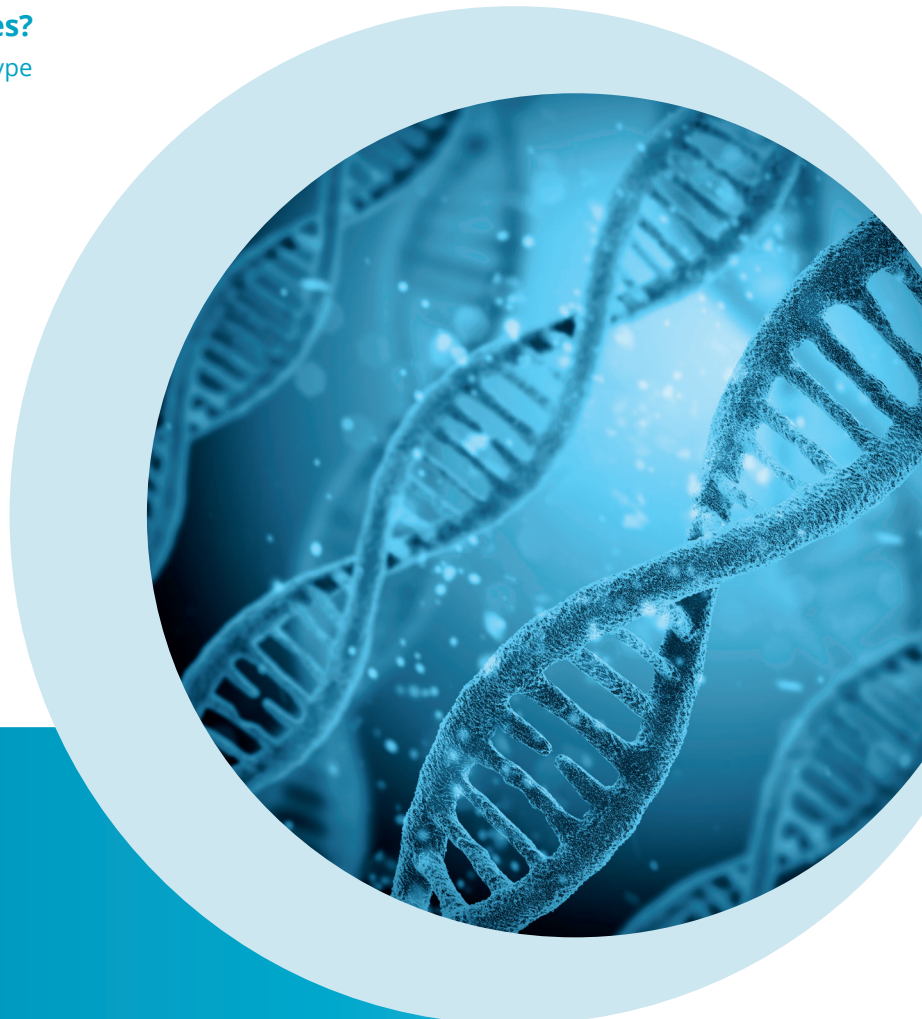
In line with the [ISSCR's latest quality standard](#) recommendations, we strongly recommend regularly checking the [genomic stability](#) of your stem cells during their time in culture with our digital PCR iCS-digital™ range. [Mycoplasma](#) testing is also critical for robust science and we have a digital PCR solution called [Myco-digital](#) that can do that for you.

*For research use only.*

For more information,  
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