

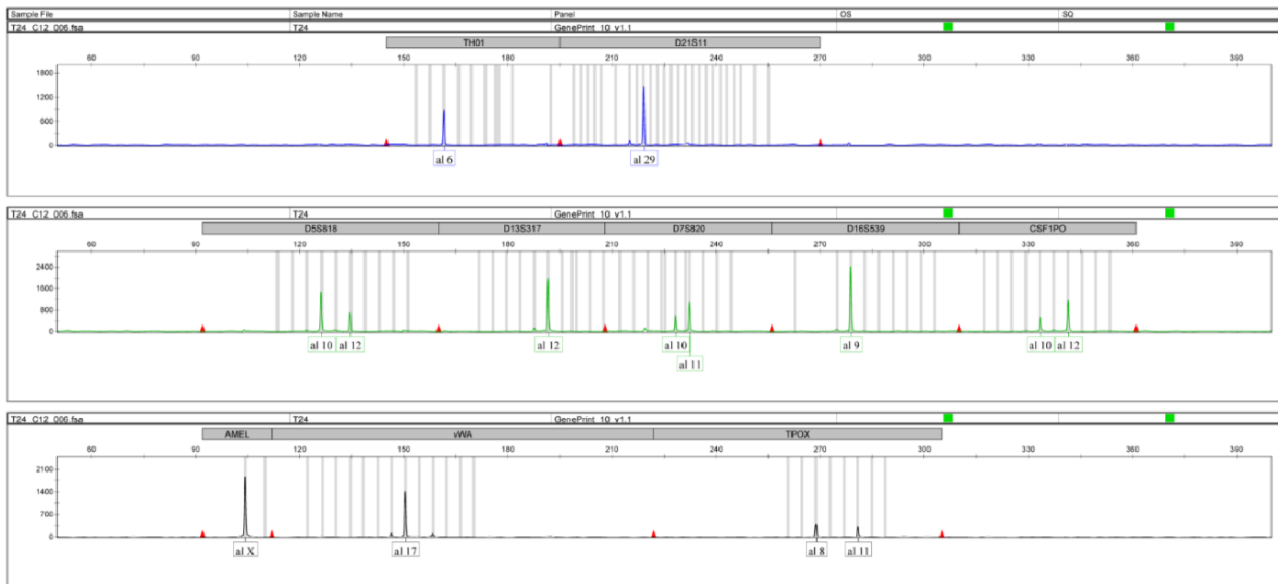
## All about IJC's cell line authentication policy

### Why does IJC request that authors check their cell cultures?

The use of misidentified and cross-contaminated cell lines is a widespread problem in biomedical research. To avoid publishing studies that are based on false cell lines, authors are asked to provide documentary evidence that the human cell lines used in their study are authentic.

### How should authors authenticate human cell lines?

Currently, short tandem repeat (STR) profiling is the international reference method for human cell line authentication. Authors can either perform the STR profiling in their own laboratory (e.g., using a commercially available kit) or use the service provided by a laboratory or cell bank with certified quality control.



An electropherogram of a T24 STR profile.

### When should authors authenticate their cell lines?

IJC recommends that authors authenticate their cell lines on a regular basis and requests that authentication documents are not older than three years.

For cell lines acquired within the last three years from a commercial source that guarantees cell line authenticity through in-house quality control measures (e.g., ATCC or DSMZ), it is sufficient to provide the purchase order or invoice.

### At which stage are cell line authentication documents requested?

IJC requests proper authentication of all human cell lines used in a manuscript before the peer review process is started. If a manuscript is selected for peer review and the cell line authentication reports have not been uploaded at submission, then the editorial staff will “unsubmit” the manuscript and the authors will be asked to upload the requested documents.

**Are these documents verified?**

Yes! All cell line authentication documents are examined by the cell line authentication expert at the IJC Editorial Office.

**Where can I find STR reference profiles of human cell lines?**

There are several databases and datasets available that include STR profiles of human cell lines, which are summarised on the website of the International Cell Line Authentication Committee (ICLAC) (<https://iclac.org/databases/>). However, the most comprehensive is the [ExPASy Cellosaurus](#) database that contains detailed information on numerous cell lines, including information on whether the cell line is known or suspected to be cross-contaminated, misidentified or misclassified.

**Should human cell lines that are not present in public databases be authenticated as well?**

Yes! IJC also requests authentication of human cell lines for which no reference profile is publicly available. The obtained STR profile should be compared to a public database, for example, by using the STR similarity search tool [CLASTR](#) of Cellosaurus, which is the largest human cell line STR profiles database. This comparison should show that there is no match with other cell lines and that the cell line is unique and not cross-contaminated or misidentified.

Authors that have established new human cell lines are also encouraged to include the summarized STR results in the manuscript for future reference.

**Should mouse cell lines be authenticated as well?**

No, as the number of publicly available mouse STR profiles is still very limited, authentication of mouse cell lines is not (yet) obligatory. However, authors are highly encouraged to authenticate their mouse cell lines as well.

**Which information should be included in the “Cell culture” section of the Materials and Methods?**

IJC requests that all cell lines used should be listed in the Materials and Methods section of the main manuscript using the official cell line name and its Research Resource Identifier (RRID) as available in the [ExPASy Cellosaurus](#) database (e.g., HeLa (RRID:CVCL\_0030)). If the used cell line has been previously published, but is not yet present in the Cellosaurus database then add the appropriate reference. Also the source/supplier of all cell lines used should be provided. In addition, a statement confirming that all human cell lines have been authenticated using STR profiling within the last three years and that all experiments were performed with mycoplasma-free cells should be included.

**Please see also section 5.1 of our author guidelines.**