Human Pluripotent Stem Cell Registry®

Cell Line Registration

Quick-Start Guide

Version 2

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Contents

1. Introduction

The following is a quick-start guide to registering your cell lines for the human pluripotent stem cell registry (hPSCreg®). A short overview of the hPSCreg® cell line registration process is provided in Figure 1. As a very first step, please apply for access to the database (described below), as it may take one or two working days for your account to be verified.

We highly recommend that you check the list of mandatory information needed to register your cell lines before you try to navigate the data entry form. A checklist of mandatory items is located at https://hpscreg.eu/about/documents-and-governance . Please also note that if you do not have all of the required information on hand, you can save your data and continue entering the missing information later. New data can also be supplied at a later time point.

hPSCreg® also collects the cell line data for lines, which are deposited in the *European Bank of induced pluripotent Stem Cells* (EBiSC). EBiSC is a not-for-profit iPSC banking initiative to store and distribute iPSC lines (https://ebisc.org/). For a quick overview of the EBiSC deposition steps, please refer to the EBiSC website (https://ebisc.org/depositors/). If you choose to register your lines in EBiSC, they will also automatically be registered in hPSCreg®. Please note that the mandatory information needed for cell line validation are slightly different between hPSCreg® and EBiSC. Cell lines registered for EBiSC will only be validated in hPSCreg® if all relevant mandatory information for hPSCreg® is provided. A separate quick-start guide for EBiSC cell line registration is available from the EBiSC website (https://ebisc.org/depositors/).
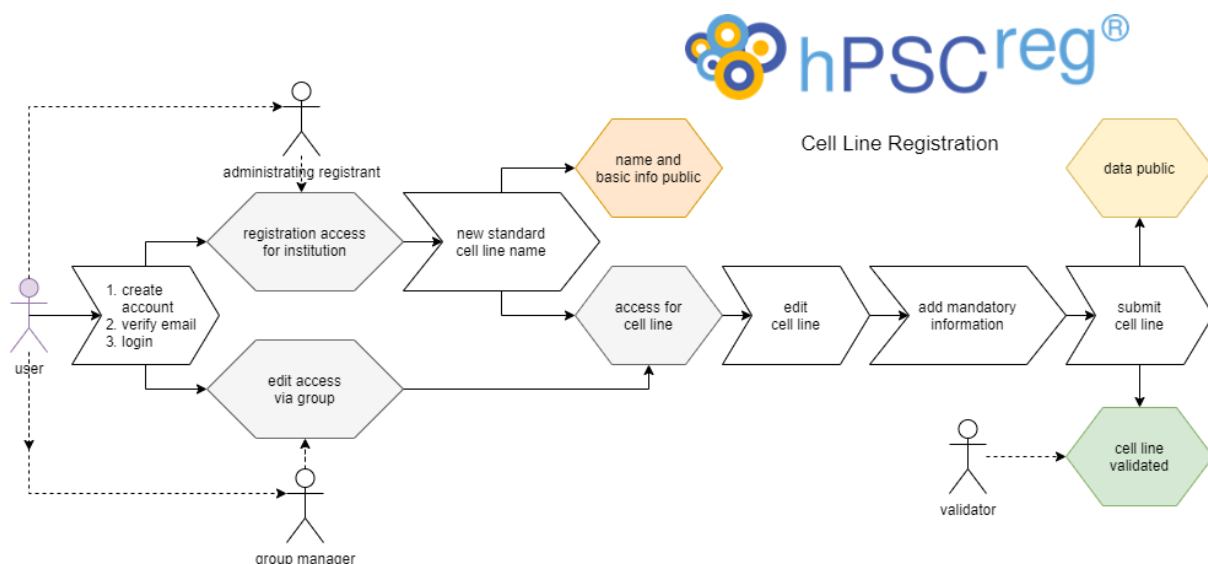

Figure 1. Overview of the cell line registration process in hPSCreg®

2. Help

If at any time you have any questions or comments about the registration or data entry process, please submit your requests to the contact form:

https://hpscreg.eu/contact

Once you have a login, you can also contact us by clicking on the "Send support mail" button on the Dashboard (see Figure 4) or in the sidebar (see Figure 10).

3. Registration

Registration is a two-step process:

1) Fill out the on-line form: https://hpscreg.eu/signup

Figure 2. Sign up form

2) Upon filling out the on-line form and clicking "Sign Up", the system will confirm the receipt of your data (Figure 3, upper figure). You will then be sent a verification email. If you do not receive a mail in your inbox, please check your junk mail folder. Verify your e-mail address by clicking on the provided link in the e-mail, and then you should see the confirmatory message in Figure 3, lower image.

Figure 3. Successful sign up and email verification

4. Login and Dashboard

Access the registration website here: https://hpscreg.eu/login

You will be directed to your "Dashboard" page (Figure 4), where you can start registering a line.
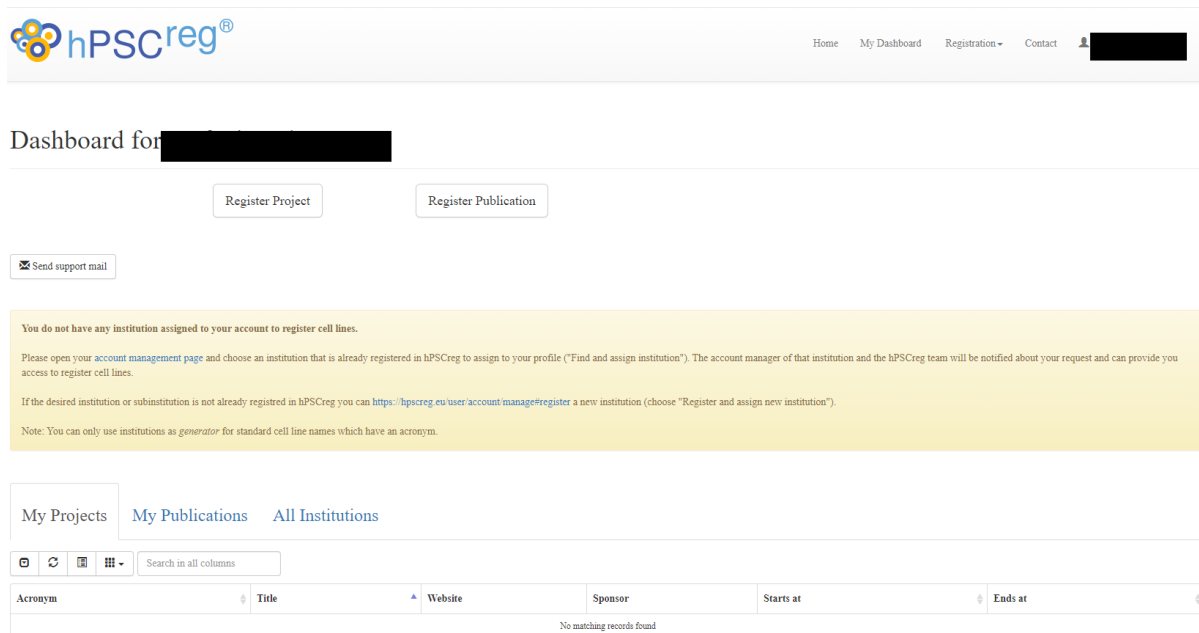
https://hpscreg.eu/user/dashboard

Figure 4. First-time user dashboard

As a first-time user, you will be required to associate your profile with an institution. This institution will be the generator institution of the cell lines that you register. Go to

https://hpscreg.eu/user/account/manage/#assign

and click on "Find and assign institution" to search for your institution in hPSCreg® (Figure 5). Search for your institution in the drop-down box and select it. If you find your institution on the drop-down list, click "Assign Institution".
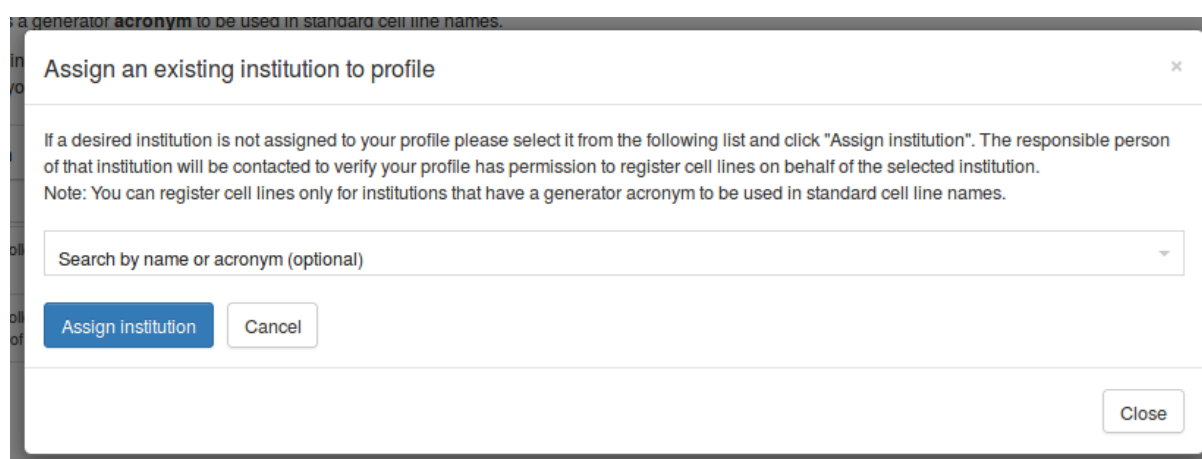

Figure 5. Assign an existing institution to your profile

An automated email will be sent to the administrating registrant of the institution, who should upgrade your status from "Applicant" to "Registrant". If you do not receive an

email notification within two business days, please contact hPSCreg®: https://hpscreg.eu/contact.

However, if your institution is not in the drop-down list, you must create your institution. Click on "Register and assign new a institution" (https://hpscreg.eu/user/account/manage#register)

See Figure 6. Fill out all of the information fields. As you are the first to the register this institution in hPSCreg®, you will be the first administrating registrant of this institution. You also have the option of nominating yourself or someone else as the public contact person for this institution.

In some cases, you may wish to register lines under a sub-institution (eg. "Institute of Stem Cell Research"), which is part of the main institution (e.g. "University of Springfield"). In this case, create the main institution first (e.g. "University of Springfield"). Then click "Register and assign a new institute" again, and enter the name of the sub-institution in the name field (e.g. "Institute of Stem Cell Research") and select the main institution from the sub-institution drop-down menu (e.g. "University of Springfield"). Now you can also create a naming acronym which is specific for your sub-institution.

To summarize, users in hPSCreg® have different statuses:

- <u>Applicant:</u> a user that requests to be associated with an existing institution, for the purposes of registering cell lines.
- <u>Registrant</u>: a user that is allowed to register cell lines for an institution.
- <u>Administrating Registrant</u>: a user that has the responsibility to approve "Applicants" to become "Registrants" for the institution s/he is managing. Administrating Registrants are also allowed to register lines and change the contact data of the institutions that they manage. There may be multiple Administrating Registrants for each institute. If a user registers a new institute for the first time, this user becomes an " Administrating Registrant" of this institution by default.

Figure 6. Register a new institution in hPSCreg.

Figure 7. Example dashboard after institutions have been associated with the profile.

5. Register a Cell Line

To register a cell line, click on "Register Cell Line"
(https://hpscreg.eu/user/cell_line_name/create).

If you are registering cell line data for an EBiSC cell line deposition, please refer to the EBiSC website (https://ebisc.org/depositors/) for the EBiSC Cell Line Registration Guide.

5.1 Standard Nomenclature

You will be directed to the page "Create a standard cell line name". The standard name (or identifier) serves as a unique reference code for the cell line, which facilitates the linking of this specific cell line to other resources, such as publications and other databases. It will be generated according to the standard human PSC nomenclature (https://hpscreg.eu/about/naming-tool). Naming is a required first step in cell line registration.

Please fill out the following mandatory fields:

- Generator institution
- Cell line type (required for hPSCreg lines)
- Does a comparator cell line exist?

Although it is not mandatory, please feel free to enter alternative names (i.e. synonyms or other identifiers) of the cell line, as this helps in preventing duplicate registrations, as well as improving the search function to find lines by their alternative names.

Figure 8. Create a cell line name (hPSCreg®)

Click "Finish" to submit the initial data. You will be asked to confirm that the initial data is correct. The system will automatically generate a reference code (also known as a standard cell line name or ID) for your cell line (**Error! Reference source not found.**).

At this point, you can register another cell line, or go to your "Dashboard" to continue adding data to the newly created line.

Once a standard name has been created, the cell line name can be found in hPSCreg. Only basic data will be displayed, such as the cell line type (hiPSC or hESC), institution that generated the line, the Biosamples ID for the cell line, and publications associated with the cell line, if any have been entered.

Figure 9. Successful creation of a cell line name

6. Adding Data to the Cell Line

Once a cell line name has been created, you can start entering data associated with the cell line. From your "Dashboard", select the line that you want to edit.

There are eight tabs of data that need to be filled out:

- General Information
- Donor Information
- Ethics/Usage
- Derivation
- Culture Conditions
- Characterisation
- Genotyping
- Genetic Modification

For an overview of the fields that are mandatory for registration, please consult the list of mandatory fields at https://hpscreg.eu/about/documents-and-governance .

The genetic information (such as karyotypes, genetic variants, STR profiles, and gene editing) associated to hPSC lines is recorded in standardized formats as much as possible to have a FAIR dataset. Further details on entering genetic information can be found in the document "Guidance for Recording Genetic Information in hPSC Lines" (https://hpscreg.eu/docs/downloads/guidance_recording_genetic_info.pdf)

Please save your data during the data entry process (*e.g.* after filling out one whole tab) by clicking "Save cell line" in sidebar on the left-hand side of the form (Figure 10**). Make sure you save your data before leaving the editing page, as most data will be lost without clicking "Save cell line".** You do not have to enter all of the data in one session.

Please note that if there are mandatory fields that have been left empty, you will not be allowed to submit the cell line for validation.

Missing information that is not mandatory can be entered later on.

Figure 10. Entering data for the cell line: don't forget to save!

Once you have reached the "Genetic Modification" tab, click "Finish" to submit the cell line for validation. You will be asked to confirm the submission, and if there are any comments that you would like to make, you can enter them in the text field (Figure 11).

Click on "Submit cell line for validation". If some of the mandatory fields have not been filled out, you will be prompted to enter the missing information.

Please note that the mandatory fields must be filled before your cell line can be successfully submitted. In the case that you are trying to submit a genetically modified cell line (also known as a subclone in hPSCreg), the parental cell line (meaning the cell line without genetic modifications) must have already been validated.

Once the cell line submission is successful, most of the cell line data will be publicly visible in hPSCreg. Additionally, the cell line will be validated by the hPSCreg Operations Team and you will receive a confirmation by e-mail.

Submit   ×

Are you finished with the registration of the cell line?

For the characterization of the cell line, please provide as much information as possible, including the marker expression for the undifferentiated stem cell status, as well as the differentation into all three germ layers.

Further information about cell culture, characterisation and genotyping can be edited at a later time point, by opening the cell lines from your dashboard.

If you want to leave any comment for the data curators, please use the textbox below.

Would you like to finally submit your cell line registration?

☑ yes ☐ no

Would you like to leave a comment?

☑

I confirm that to the best of my knowledge that the submitted data are accurate and complete. I agree that the registered data will be publicly available via the hPSCreg website.

[Submit cell line for validation]

[Cancel]

Figure 11. Submit the cell line for validation

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7. Cell Line Certificates

If you would like to obtain a certificate for your validated cell line, please send a request to us through the contact form:

https://hpscreg.eu/contact

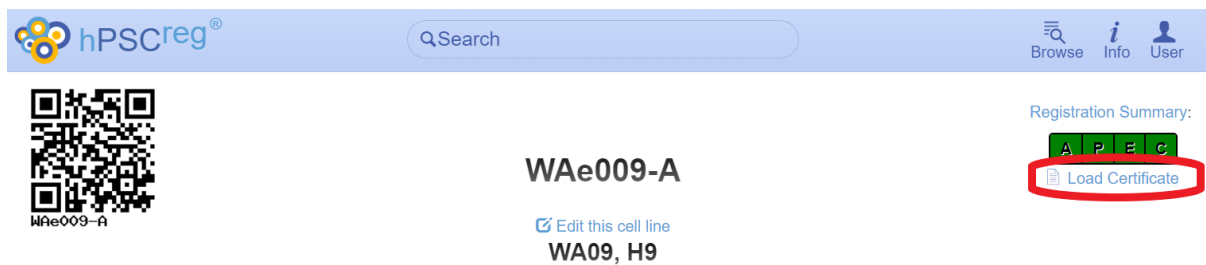Certificates already issued for cell lines can be found on the public cell line website (see Figure 12).

Figure 12. Public certificates

8. Change History

Version	Valid from	Changes compared to the previous version (short description)
0.2.5	October 2017	First version of the quick start cell registration guide for hPSCreg and EBiSC
1.0	See title page	• New Figure 1 (overview of cell line registration process) added • Screenshots of menus have been updated • Minor text and formatting changes • The term "manager" has been changed to "administrating registrant" • Mandatory Fields section has been removed from the quickstart guide and is now provided as a separate download from here: https://hpscreg.eu/about/documents-and-governance
2.0	May 2022	• Remove EBiSC2 logo and instructions for EBiSC cell line registration, as there is now a separate user guide for registering lines in EBiSC • Update weblinks to EBiSC • Minor text changes

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