

miRCURY LNA™ Universal RT microRNA PCR Stem Cell Focus microRNA PCR Panel

PCR panels containing miRCURY LNA™ Universal RT microRNA PCR assays for microRNAs related to stem cells. Panels are available in ready-to-use 96 and 384 well plates – just add cDNA and PCR master mix.

At a glance

- All relevant embryonic and induced pluripotent stem cell microRNAs in one PCR Panel
- A highly flexible (Pick-&-Mix) solution that allows you to focus on the microRNAs you need in your stem cell project
- Profile all microRNAs using less than 20 ng total RNA
- Sensitivity and specificity for accurate microRNA profiling
- Fast and easy - ready-to-use format with a full profile in less than 3 hours
- High compatibility – 96 and 384 well formats compatible with most real-time PCR instruments

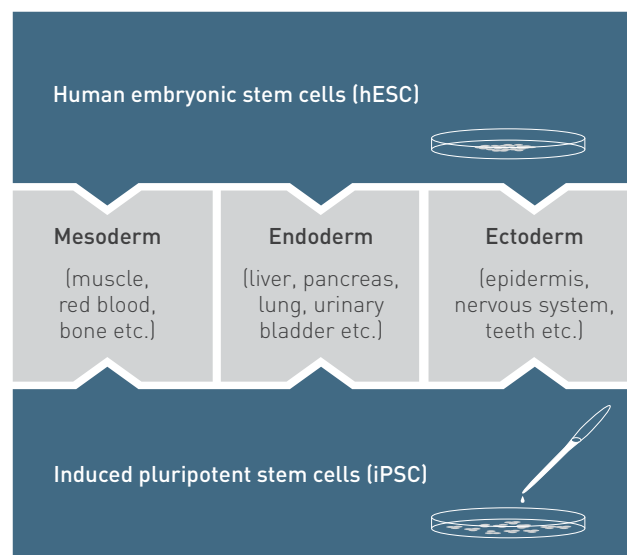
microRNAs in stem cells

Stem cell research has received increasing attention in recent years due to their notable potential to reproduce as well as differentiate into many different cell types. Today, stem cell studies are conducted in a wide range of fields, e.g., in understanding disease, in biomarker discovery and drug screening.

Exiqon's Pluripotent Stem Cell Focus microRNA PCR Panel is based on microRNAs expressed in stem cells derived from human embryos (hESC) and induced pluripotent stem cells (iPSC).

iPSCs and hESCs can be grown and maintained *in vitro* and can be made to differentiate into specialized cells when exposed to the right cocktail of stimuli (Figure 1). For adult stem cells, three major paths have been described: Mesoderm, Endoderm and Ectoderm. Mesodermal cells develop into skeleton muscles, bone and blood cells. Endodermal cells develop into the different organs and ectodermal cells develop into skin, tooth and the nervous system.

Figure 1. Stem cell differentiation. iPSCs and hESCs can be grown and maintained *in vitro* and differentiate into specialized cells when exposed to the right stimuli.



Product coverage

The miRCURY LNA™ Universal RT microRNA PCR, Pluripotent Stem Cell Focus microRNA PCR Panel is offered as a Pick-&-Mix microRNA PCR Panel. It is a pre-defined list of assays for microRNAs expressed in human embryonic stem cells and induced pluripotent stem cells. Together, they comprise a panel that fits into a single 96-well PCR plate.



The panel contains:

- 85 microRNA LNA™ PCR primer sets targeting human microRNAs expressed in embryonic stem cells (hESC) and induced pluripotent stem cells (iPSC)
- 3 of the microRNA assays can also be used as control primers: hsa-miR-103, hsa-miR-191 and hsa-miR-423-5p
- 3 snRNA references genes (U6, SNORD38B, and SNORD49A). These 6 potential reference control genes are identical to those supplied with other Exiqon PCR panels, making it easy to shift between panels
- 5 RNA spike-in controls can be selected in the Pick-&-Mix configurator for use as positive controls e.g. for quality control of the RNA purification and the RT reaction
- 3 inter-plate calibrators (3 x UniSp3 IPC)

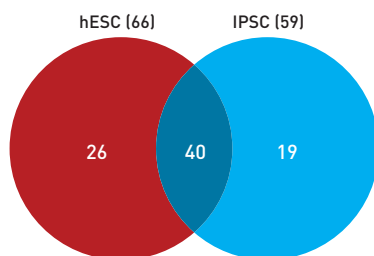
The most relevant microRNAs for stem cell projects

All 85 stem cell specific microRNAs in the panel were selected based on experimental data from external partners using the miRCURY LNA™ Universal RT microRNA PCR system as well as on results published in peer-reviewed journals. A total of 66 microRNAs are expressed in hESC, while 59 of the microRNAs are identified in iPSC. There is an overlap of 40 microRNAs that are expressed both in hESC and in iPSC (Figure 2 & 3). Panels are available for hESC and iPSC microRNAs individually or a combination of the two.

A truly flexible solution

Since the panel is offered in the Pick-&-Mix configurator as a pre-defined panel, the panel composition is not static. Assays can be added or removed according to your needs. This highly flexible solution allows you to design the plates the way you want them in 96 or 384 well formats compatible with a wide range of PCR instruments (Figure 4).

Figure 2. Focus panel coverage. A total of 66 microRNAs are expressed in hESC and 59 microRNAs were identified in iPSC.



For updated product information, please visit www.exiqon.com/stem-cell-mirna-pcr

Figure 3. microRNA expression profiles. Comparison of microRNA expression in stem cells and differentiated cells.

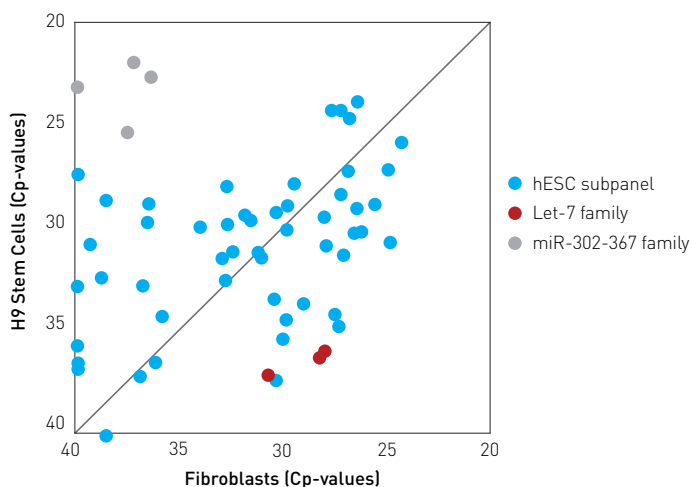
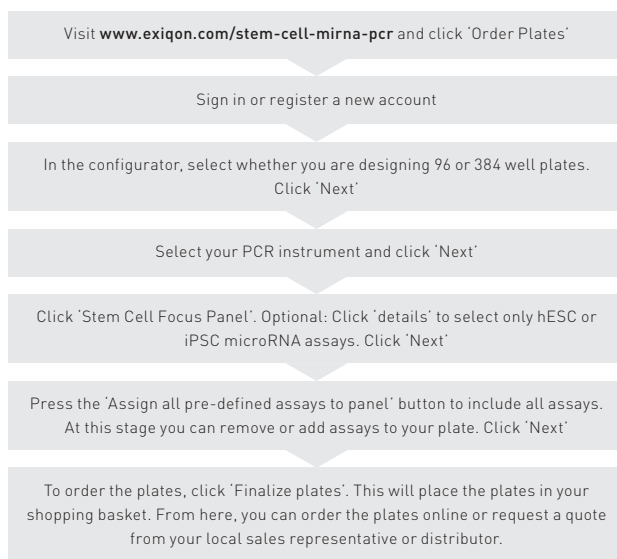


Figure 4. Ordering Information. The panel can be customized to your needs using our online Pick-&-Mix configurator.



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