

Skeletal Muscle Differentiation Kit

World's first commercially available media system to differentiate human pluripotent stem cells into functional myotubes.

KEY FEATURES AND BENEFITS

- Achieves typically 70% MF20-positive myotubes
- Simple 3-step process involves only media changes and cell passaging
- No cell sorting steps required
- No transfection of myogenic transcription factors
- Tested on a wide range of human embryonic & induced pluripotent stem cell lines

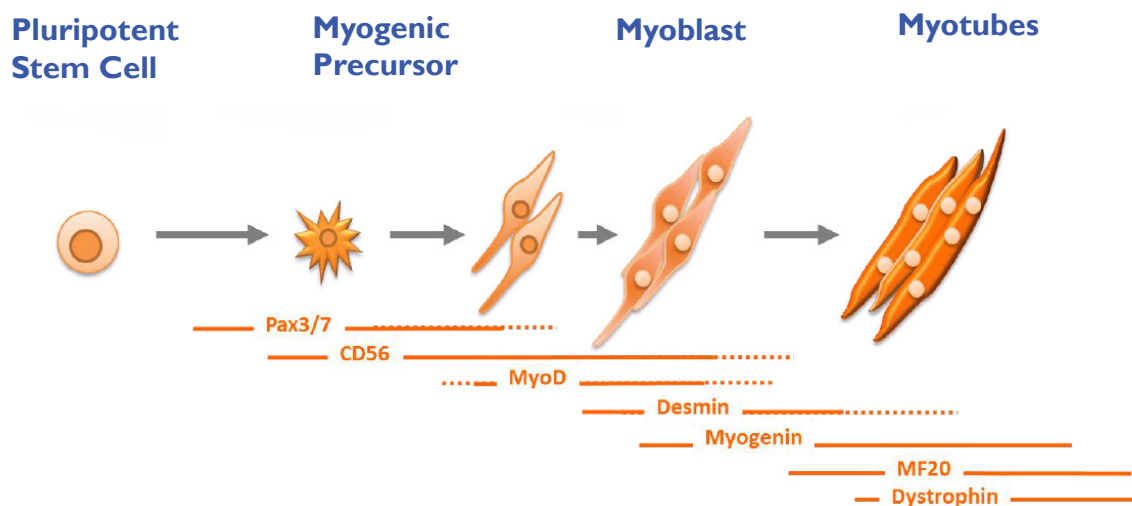
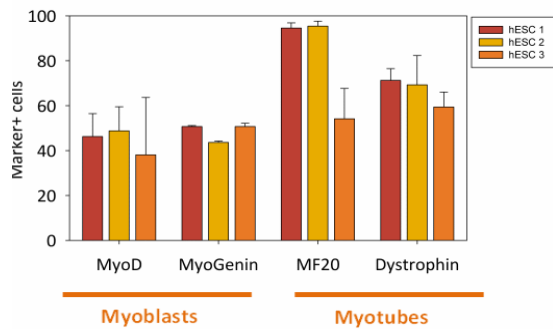


Fig 1. Infographic showing stages of differentiation from iPSCs to myotubes

“Following the simple 3-step process, we were able to reliably obtain skeletal muscle precursor cells which we differentiated to form myotubes. This unique protocol allows easy scale up of myoblast production by automation, cell modelling and high throughput screening”

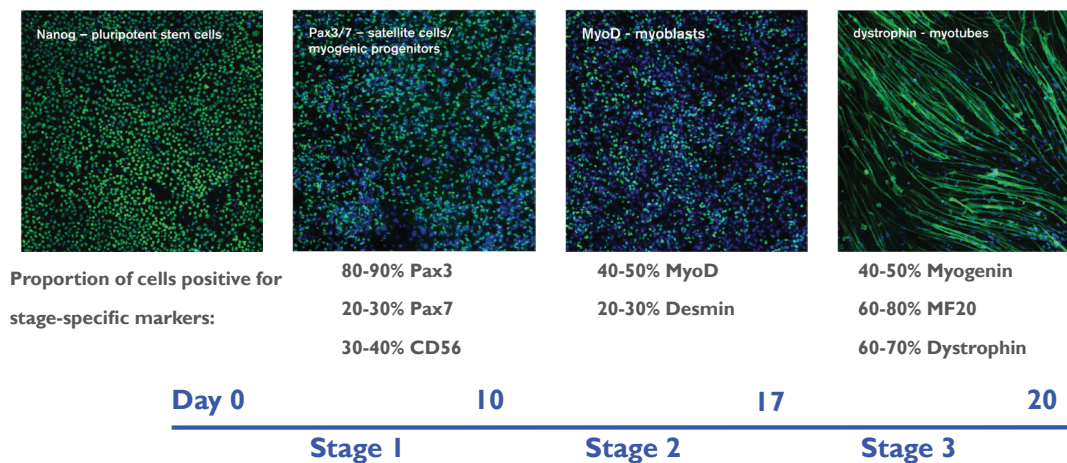
Dr. Emmanuelle Massouridès, Research Engineer at I-Stem



High content readout for three cell lines differentiated to muscle-committed myoblasts stained with markers MyoD and MyoGenin and mature myotubes stained with the mature muscle markers Dystrophin and MF20.

Fig. 2 Graph showing the expression level of surface markers for three cell lines differentiated to muscle committed myoblasts

The following schematic outlines the 3 stage protocol for generating skeletal muscle cells from stem cells. Figure 1 is a representation of an optimised protocol. If hypoxic setup is not available, the entire protocol can be followed in normoxic conditions. If hypoxic conditions are used the entire protocol, the Stage 3 duration can be reduced to 7 days.



Featured References

- Journal of Cachexia, Sarcopenia and Muscle 2021, February 12:209-232
Myogenesis modelled by human pluripotent stem cells: a multi-omic study of Duchenne myopathy early onset
- Sci Rep. 2019, May 9: 6915
Identification of thioesterone as a pharmacological approach to rescue misfolded alpha-sarcoglycan mutant proteins from degradation.
- Elife 2022, Jan 11:e70341
iMyoblasts for ex vivo and in vivo investigations of human myogenesis and disease modeling

Description	Pack Size	Cat. No.
Skeletal Muscle Differentiation Kit	1 Kit	SKM-KIT
Skeletal Muscle Induction Medium	250ml	SKM01-250ML
Myoblast Culture Medium	250ml	SKM02-250ML
Myotube Cell Culture Medium	250ml	SKM03-250ML
Myotube extender additive	25ml	SKM04-25ML

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