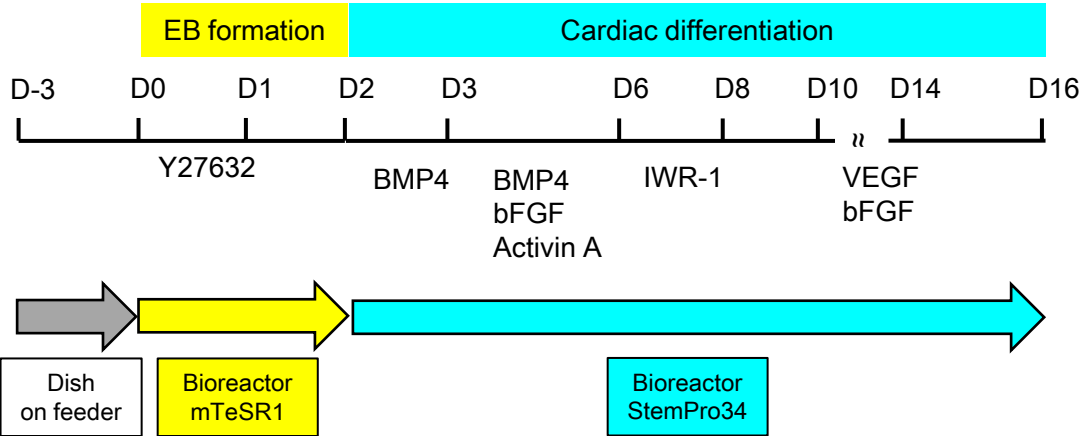


Single use bioreactor series

Application note 1

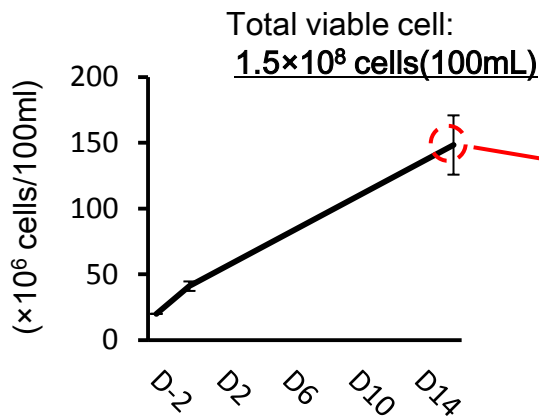
Cell expansion and cardiovascular differentiation of human iPS cells in the one vessel



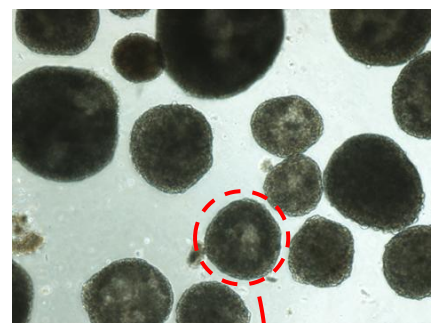
Cell line: 253G1(human iPS cells)
 Maintenance medium: ES Primate Medium (ReproCELL)
 Feeder cells: MEF

Culture condition

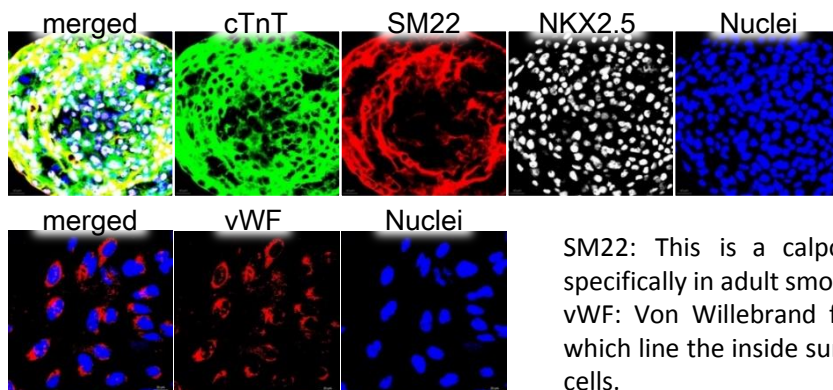
- Volume 100mL
- Agitation 40rpm
- Temp. 37°C
- pH 7.2
- DO 40% (Air saturation)



Phase contrast image of EB at day16



Immunocytochemical analysis of EBs at day16

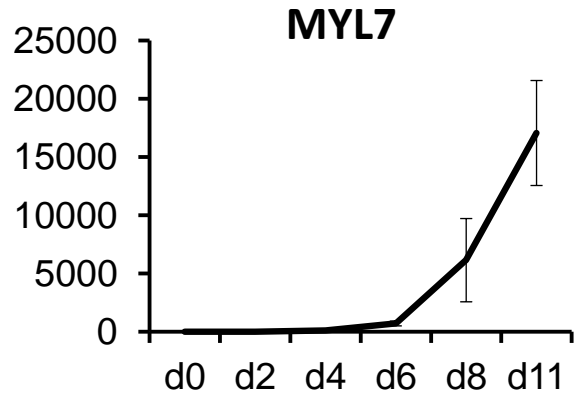
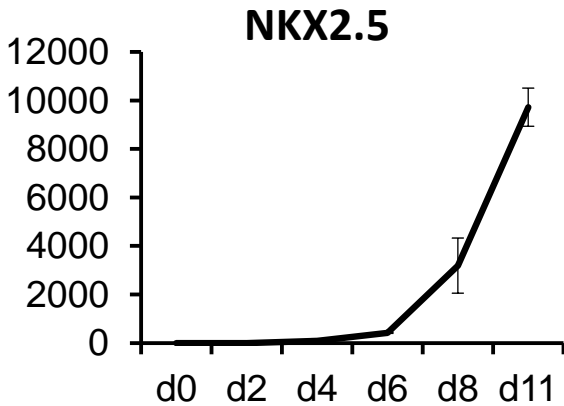


SM22: This is a calponin-related protein that is expressed specifically in adult smooth muscle.
 vWF: Von Willebrand factor is made within endothelial cells, which line the inside surface of blood vessels, and bone marrow cells.

qRT-PCR analysis (before differentiation =1)

NKX2.5 gene: This gene encodes a homeobox-containing transcription factor. This transcription factor functions in heart formation and development.

MYL7 gene: This gene encodes MYL7 (myosin, light chain 7, regulatory).

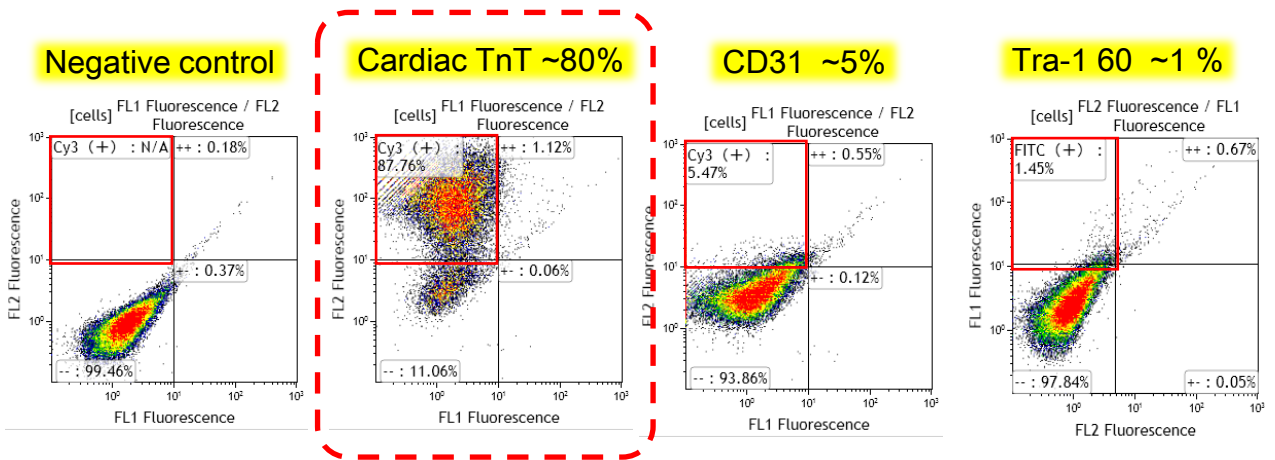


FACS(fluorescence activated cell sorting) analysis of EBs after enzymatic dissociation

TnT: Troponin is a complex of three regulatory proteins (troponin C, troponin I, and troponin T) that is integral to muscle contraction in skeletal muscle and cardiac muscle, but not smooth muscle.

CD31: CD31 is normally found on endothelial cells, platelets, macrophages and Kupffer cells, granulocytes, T / NK cells, lymphocytes, megakaryocytes, osteoclasts, neutrophils.

Tra-1 60: A pluripotent stem cell-specific protein expressed on the surface of undifferentiated human embryonic stem (ES), induced pluripotent stem (iPS).



References

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