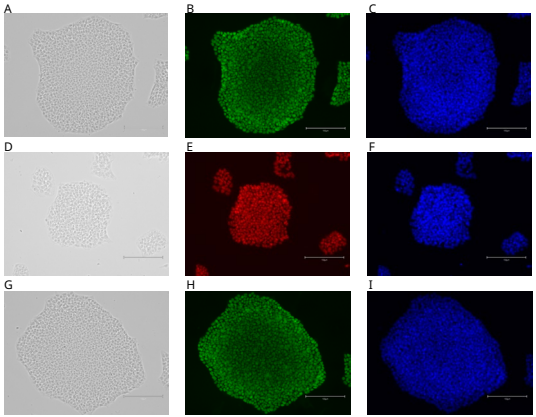
Weekend-free human induced Pluripotent Stem Cells culture utilizing Qkine high quality growth factors and vitronectin

Technote
FGF2-G3 (Qk053) TGF-β1 PLUS (Qk010)
Vitronectin (Qk120)



ICC of pluripotency markers in iPSC grown in E8-like media.

Brightfield image (A); NANOG expression (green, B); Hoechst 33258 (blue, C); Brightfield image (D); OCT-4 expression (red, E); Hoechst 33258 (Blue, F); Brightfield image (G); SOX2 expression (green, H); Hoechst 33258 (blue, I). Scale bar = 150µm.

Feeder-free human induced pluripotent stem cell (iPSC) culture is a highly repetitive and routine process that can be costly due to the requirement for daily media changes. To maintain pluripotency iPSC need to have consistent exposure to growth factors, Fibroblast growth factor 2 (FGF-2) and transforming growth factor β1 (TGF-β1). *In vitro* can be challenging due to low thermostability of FGF-2, Qkine thermostable FGF2-G3 (Qk053) reduces the need for daily media changes. iPSC are cultured on vitronectin which helps in maintaining the pluripotent state of iPSC by supporting the expression of key pluripotency markers and genes. Qkine vitronectin (Qk120) is ultra-high grade low endotoxin and animal origin-free to provide the most consistent iPSC culture conditions.

Results

- iPSCs cultured in E8-like media with Qkine thermostable FGF2-G3 (Qk053) and TGF-β1 PLUS (Qk010) on vitronectin (Qk120) coated plates retained their phenotype for over 2 weeks, with twice weekly passaging and media changes.
- iPSC retained their pluripotent potential by expressing high levels of the pluripotency markers NANOG, SOX2 and OCT-4.

Qkine Vitronectin (QK120) and Qkine TGF-β1 PLUS (Qk010) and FGF2-G3 (Qk053) thermostable growth factors in an E8-like media preserve iPSC pluripotency and support proliferation while preventing the need for daily media changes.