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Tri-lineage differentiation kit (Qk516)



Type: Growth factor discovery kits

Available for purchase: Qk516: Tri-lineage differentiation kit

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Product Information

For validating the ability of new or established induced pluripotent stem cell (iPSC) lines to differentiate to the three germ layers: ectoderm, mesoderm, and endoderm.

The tri-lineage differentiation kit is designed to validate the differentiation potential of both newly derived and established iPSC lines. This kit enables the evaluation of the ability of iPSCs to differentiate into the three primary germ layers: ectoderm, mesoderm, and endoderm.

The kit includes carefully optimized growth factors required to efficiently guide iPSCs toward one of the three germ lineages. It serves as both an endpoint assay—confirming pluripotency and lineage commitment—and a platform for generating lineage-specific progenitor cells for further downstream applications.

Each kit is sufficient for differentiation of 3x 96 well plates per differentiation, 9x 96 wells total.

Supplement this kit with Y-27632 dihydrochloride (Qk1104), LY294002 (Qk1102), SB431542 (Qk1103) and CHIR99021 (Qk1101)

Species reactivity

- human

Product Information

- >98%, by SDS-PAGE quantitative densitometry
- Animal origin-free (AOF) and carrier protein-free

- Expressed in *E. coli*
- Bioactivity Guaranteed
- Manufactured in our Cambridge, UK laboratories
- Lyophilized

Reconstitution instructions

- Discovery kits

Featured applications

- Differentiation of iPSC into endoderm, mesoderm and ectoderm

Further quality assays

- Mass spectrometry: single species with expected mass
- Recovery from stock vial: >95%
- Endotoxin: <0.05 EU/µg protein

Scientific Information

Bioactivity

Human activin A - Qk001 - **25 µg**

Frequently used to maintain pluripotency in induced pluripotent and embryonic stem cell cultures. It is also used in many stem cell differentiation protocols, including endoderm lineage differentiation and further maturation into hepatocyte and pancreatic cells.

Human BMP-4 - Qk038 - **25 µg**

A key regulator of embryogenesis and supports the differentiation of embryonic stem cells and induced pluripotent stem cells.

Human FGF2-G3 (154 aa) – Qk053 - **50 µg**

A thermostable engineered form of human FGF-2. Human FGF2-G3 154 aa is the 154 aa mature domain of FGF-2. The functional half-life has increased from <10 h (wild-type) to >7 days (FGF2-G3).

Human noggin - Qk034 - **25 µg**

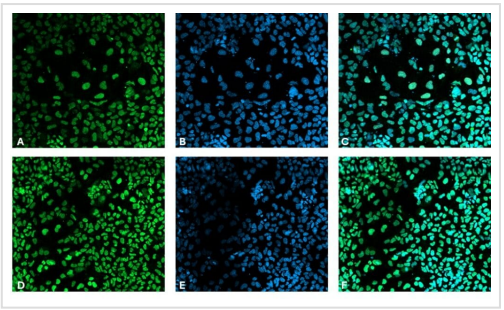
Noggin is used in the culture of intestinal, pancreatic, lung and tumor-derived organoids and the maintenance of undifferentiated embryonic stem cells (ESC) and for stem cell differentiation into neural and microglial lineages.

Human vitronectin – Qk120 - **500 µg**

Provides a defined environment that supports the maintenance of pluripotency and is suitable for feeder-free culture, expansion, differentiation, and reprogramming of stem cells.

Purity

Immunocytochemistry of endoderm markers in differentiated iPSC. SRY-box transcription factor 17 (SOX17) [Green, A], Hoechst 33258 [Blue, B], combined SOX17 and Hoechst [C] and transcription factor GATA4 [Green, D], Hoechst 33258 [Blue, E], combined GATA4 and Hoechst [F]. Images were acquired using the tile functionality of the Zeiss LSM 980 with Airyscan2 at 10x magnification.



Application note | Differentiation of induced pluripotent stem cells (iPSCs) into endoderm

Original product page: https://qkine.com/product/tri-lineage-differentiation-kit-qk516/

PDF generated: 13 October 2026

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