STEMdiff™ APEL™2-LI Medium

Defined, low-insulin, animal component-free medium for the differentiation of human ES and iPS cells

Catalog # 05271 100 mL

STEMCELL™ TECHNOLOGIES
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Product Description

STEMdiff™ APEL™2-LI Medium is a fully defined, low-insulin (LI), serum-free and animal component-free medium for differentiation of human embryonic stem (ES) cells and induced pluripotent stem (iPS) cells. It is based on the APEL formulation published by Dr. Andrew Elefanty (Ng et al.) and lacks undefined components such as protein-free hybridoma medium. This medium can be used in adherent or embryoid body (EB)-based protocols, such as those using AggreWell™400 (Catalog #34421). Appropriate induction factors must be added before use. The low insulin content of this medium makes it particularly useful for differentiation protocols where insulin is a known inhibitor, such as differentiation to cardiomyocytes (Elliott et al.).

- Compatible with TeSR™-cultured ES and iPS cells
- Compatible with adherent or EB culture differentiation protocols
- Can be used to direct differentiation to a variety of cell lineages when specific cytokines or induction factors are added

Properties

Storage: Store at -20°C.
Shelf Life: Stable until expiry date (EXP) on label.

Handling / Directions For Use

Thaw STEMdiff™ APEL™2-LI Medium at room temperature (15 - 25°C) or at 2 - 8°C.
NOTE: Once thawed, store medium at 2 - 8°C for up to 2 weeks. Alternatively, aliquot and store at -20°C until expiry date on the label. Avoid additional freeze-thaw cycles.
NOTE: If required for specific applications, protein-free hybridoma medium (e.g. Gibco® PFHM-II, Thermo Fisher Catalog #12040077) may be added to the thawed medium by adding 5 mL of protein-free hybridoma medium to 100 mL of STEMdiff™ APEL™2-LI Medium.

STEMdiff™ APEL™2-LI Medium is compatible with ES and iPS cells cultured in mTeSR™1 (Catalog #85850), TeSR™2 (Catalog #05860), and TeSR™-E8™ (Catalog #05940). For complete instructions on maintaining high quality human pluripotent stem cells for use in differentiation, refer to the Technical Manuals: Maintenance of Human Pluripotent Stem Cells in mTeSR™1 (Document #28315), TeSR™2 (Document #28210), or TeSR™-E8™ (Document #29267), available at www.stemcell.com or contact us to request a copy.

For complete instructions on generating EBs from human pluripotent stem cells using AggreWell™ plates, refer to the Technical Manual: Reproducible and Uniform Embryoid Bodies Using AggreWell™ Plates (Document #29146), available at www.stemcell.com or contact us to request a copy.

Notes and Tips

RELATED PRODUCTS
For related products, including specialized cell culture and storage media, matrices, antibodies, cytokines, and small molecules, visit www.stemcell.com/hPSCworkflow or contact us at techsupport@stemcell.com.

References

1. Elliott DA et al. (2011) NKX2-5(eGFP/w) hESCs for isolation of human cardiac progenitors and cardiomyocytes. Nat Methods 8(12): 1037–40.
2. Ng ES et al. (2008) A protocol describing the use of a recombinant protein-based, animal product-free medium (APEL) for human embryonic stem cell differentiation as spin embryoid bodies. Nat Protoc 3(5): 768–76.