

STEMdiff™ APEL™-LI Medium



Low-Insulin, Serum- and Animal Component-Free Medium for the Differentiation of Human ES and iPS Cells

Catalog # 05211

100 mL

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FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.

Product Description

STEMdiff™ APEL™-LI Medium is a low-insulin (LI), serum-free, 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 Ng et al. This medium can be used in adherent or embryoid body (EB)-based protocols, such as with AggreWell™ plates (Catalog #27845). STEMdiff™ APEL™-LI does not contain growth factors or cytokines. Appropriate induction factors must be added before use. The low insulin content of this medium makes it particularly useful for differentiation to lineages in which insulin is a known inhibitor, such as cardiomyocytes (Elliott et al.).

- Compatible with adherent or EB culture differentiation protocols
- Medium alone supports cell survival without lineage bias
- Can be used to direct differentiation to a variety of cell lineages, when appropriate factors are added

Properties

Storage: Store at -20°C.

Shelf Life: Stable until expiry date (EXP) on label.

Contains: The APEL formulation is published (Ng et al. 2008).
APEL-LI (Elliott et al. 2011) contains 1 ug/mL insulin, which is one tenth of the insulin concentration of regular APEL.

Handling / Directions For Use

Thaw STEMdiff™ APEL™-LI Medium at room temperature (15 - 20°C) or at 2 - 8°C.

NOTE: Once thawed, store medium at 2 - 8°C for up to two weeks. Alternatively, aliquot and store at -20°C until expiry date on the label. Avoid additional freeze-thaw cycles.

STEMdiff™ APEL™-LI Medium is compatible with ES and iPS cells cultured in mTeSR™1 (Catalog #05850) and TeSR™2 (Catalog #05860). For complete instructions on maintaining high quality human pluripotent stem cells for use in differentiation, refer to the Technical Manual: Maintenance of Human Pluripotent Stem Cells in mTeSR™1 (Document #29106), available on our website 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 on our website at www.stemcell.com or contact us to request a copy.

References

1. Ng ES, et al. 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. *Nature Protocols* 3(5): 768-776, 2008
2. Elliott, DA, et al. NKX2-5eGFP/w hESCs for isolation of human cardiac progenitors and cardiomyocytes. *Nature Meth* 8: 1037-1040, 2011

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