

Featured Stericup® Publications



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Preparation, Separation,
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Greener filtration

Medullary Thymic Epithelial Cell Antigen-presentation Assays

Borelli A, Zamit C, and Irla M.

Bio Protoc 2023 Nov 5;13(21):e4865.

<https://doi.org/10.21769/BioProtoc.4865>

Application: Steritop® E filters, which reduce plastic and hazardous waste, were used to prepare culture media and buffers.

Mycoplasma clearance

Examining the Effects of Gestational Physical Activity and Hofbauer Cell Polarization on Angiogenic Factors

Goudreau AD, Tanara L, Tzaneva V, and Adamo KB.

Int. J. Environ. Res. Public Health 2023, 20, 6298.

<https://doi.org/10.3390/ijerph20136298>

Application: HBC complete media was filtered using a Stericup® filter with a 0.1 µm pore size to mitigate the risk of mycoplasma contamination.

Preparing viral particles or recombinant proteins from cell culture supernatants

Antitumor Immunity Induced by Antibody-based Natural Killer Cell Engager Therapeutics Armed with Not-alpha IL-2 Variant

Demaria O, Gauthier L, Vetizou M, Blanchard Alvarez A, Vagne C, Habif G, Batista L, Baron W, Belaïd N, Girard-Madoux M, Cesari C, Caratini M, Bosco F, Benac O, Lopez J, Fenis A, Galluso J, Trichard S, Carrette B, Carrette F, Maguer A, Jaubert S, Sansaloni A, Letay-Drouet R, Kosthowa C, Lovera N, Dujardin A, Chanuc F, Le Van M, Bokobza S, Jarmuzynski N, Fos C, Gourdin N, Remark R, Lechevallier E, Fakhry N, Salas S, Deville JL, Le Grand R, Bonnafous C, Vollmy L, Represa A, Carpentier S, Rossi B, Morel A, Cornen S, Perrot I, Morel Y, and Vivier E.

Cell Rep Med 2022 Oct 18;3(10):100783.

<https://doi.org/10.1016/j.xcrm.2022.100783>

Application: Describes the use of 0.22 µm Stericup® filters to prepare therapeutic antibody candidates from cell culture supernatants.

Sex, Age, and Hospitalization Drive Antibody Responses in a COVID-19 Convalescent Plasma Donor Population

Klein SL, Pekosz A, Park HS, Ursin RL, Shapiro JR, Benner SE, Littlefield K, Kumar S, Naik HM, Betenbaugh MJ, Shrestha R, Wu AA, Hughes RM, Burgess I, Caturegli P, Laeyendecker O, Quinn TC, Sullivan D, Shoham S, Redd AD, Bloch EM, Casadevall A, and Tobian AA.

J Clin Invest 2020, Nov 2;130(11):6141-6150.

<https://doi.org/10.1172/JCI142004>

Application: Describes the purification of recombinantly-expressed Spike SARS-CoV-2 glycoprotein receptor binding domain and S protein from cell culture supernatants using 0.22 µm PES Stericup® filters.

Respiratory Syncytial Virus Infection of Monocyte-Derived Dendritic Cells Decreases Their Capacity to Activate CD4 T Cells

de Graaff P, de Jong E, van Capel T, van Dijk M, Roholl P, Boes J, Luytjes W, Kimpen J, and van Bleek G.

J Immunol 1 November 2005; 175 (9): 5904–5911.

<https://doi.org/10.4049/jimmunol.175.9.5904>

Application: Describes the use of 0.2 µm Stericup® filters for preparing viral stocks from cell culture supernatants.

Stem cell culture

Cardiomyocyte Differentiation from Mouse Embryonic Stem Cells by WNT Switch Method

Mensah IK, Emerson ML, Tan HJ, and Gowher H.

Cells 2024, 13, 132.

<https://doi.org/10.3390/cells13020132>

Application: Stericup® and Steriflip® filters were used to prepare cell culture reagents and various cell culture media for embryonic stem cell growth and differentiation.

Large-Scale Production of Kidney Organoids from Human Pluripotent Stem Cells

Sander V, Przepiorski A, Hukriede NA, and Davidson AJ.

Methods Mol Biol 2023;2664:69-83.

https://doi.org/10.1007/978-1-0716-3179-9_6

Application: 0.22 µm Stericup® filters were used to prepare cell culture media for stem cell differentiation.

Stem cell culture (continued)

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

Ng E, Davis R, Stanley E, and Elefanty AG.

Nat Protoc 2008, 3, 768–776.

<https://doi.org/10.1038/nprot.2008.42>

Application: Detailed protocol describing the use of a 0.22 µm Stericup® filter in the preparation of a defined, serum-free cell culture medium for human embryonic stem cell differentiation.

Basic Pluripotent Stem Cell Culture Protocols

Borowski M, Giovino-Doherty M, Ji L, Shi MJ, and Smith KP.

In: StemBook. Harvard Stem Cell Institute, Cambridge (MA); 2008.

[PMID: 23658979](https://pubmed.ncbi.nlm.nih.gov/23658979/)

Application: Describes the use of Stericup® filters in the preparation of iMEF culture medium, pluripotent stem cell culture media, and collagenase solution.

T cell culture

Precise Surface Functionalization of PLGA Particles for Human T Cell Modulation

Hadley P, Chen Y, Cline L, Han Z, Tang Q, Huang X, and Desai T.

Nat Protoc 18, 3289–3321 (2023).

<https://doi.org/10.1038/s41596-023-00887-8>

Application: Describes the use of 0.22 µm Stericup® PES filters in the preparation of T cell media containing FBS.

Human Dendritic Cell Enrichment and Their Activation of T Cells

Lubin R, Gvili R, Hazan I, and Yona S.

Curr Protoc 2023 Aug;3(8):e873.

<https://www.doi.org/10.1002/cpz1.873>

Application: Describes the use of 0.22 µm Stericup® filters in the preparation of cell culture media for a cytotoxicity assay using T cells and dendritic cells.

Identifying Cytokine Signaling Signatures in Primary Human Th-1 Cells by Phospho-proteomics Analysis

Martinez-Fabregas J, Pohler E, and Moraga I.

STAR Protoc 2021 Mar 31;2(2):100417.

<https://doi.org/10.1016/j.xpro.2021.100417>

Application: Stericup® filters were used to prepare SILAC media for T cell labeling.

Sterile preparation of peptide biomolecule for *in vivo* studies

The Effect of PTH Antagonist BIM-44002 on Serum Calcium and PTH Levels in Hypercalcemic Hyperparathyroid Patients

Rosen HN, Lim M, Garber J, Moreau S, Bhargava HN, Pallotta J, Spark R, Greenspan S, Rosenblatt M, and Chorev M.

Calcif Tissue Int 1997 Dec;61(6):455-9.

<https://doi.org/10.1007/s002239900367>

Application: Perhaps the earliest citation for Stericup® filters, this paper describes its use in sterile preparation of a peptide formulation for *in vivo* studies.

Bioprocess

Application of High-throughput Mini-bioreactor System for Systematic Scale-down Modeling, Process Characterization, and Control Strategy Development

Janakiraman V, Kwiatkowski C, Kshirsagar R, Ryll T, and Huang Y-M.

Biotechnol Progress 2015; 31: 1623-1632.

<https://doi.org/10.1002/btpr.2162>

Application: Daily samples from the bioreactor were centrifuged, filtered through Millex® 0.22 µm PES syringe filters or Stericup® 0.22 µm PES vacuum filters, and stored at –70°C.



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SigmaAldrich.com/stericup



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Technical Service: SigmaAldrich.com/techservice

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