

# Technical Bulletin

## Frequently Asked Questions: EX-CELL™ NS0 and EX-CELL™ Sp2/0 Serum-Free Media

### What are the differences between EX-CELL™ NS0 and EX-CELL™ Sp2/0?

EX-CELL™ NS0 Serum-Free Medium for NS0 Cells, Chemically Defined and EX-CELL™ Sp2/0 Serum-Free Medium for Sp2/0 Cells, Chemically Defined were designed specifically for the growth and production of monoclonal antibodies from NS0 and Sp2/0 hybridoma clones. NS0 clones require cholesterol for optimal cell densities and antibody production. The cholesterol requirement is one of the main differences between the two products, although there are other nutritional differences since the products were designed for the specific cell lines. These differences were developed to accommodate various NS0 and Sp2/0 clones.

### Will EX-CELL™ Sp2/0 supplemented with Lipid Concentrate 500X, Chemically Defined grow NS0 cells?

EX-CELL™ Sp2/0 is the medium of choice for Sp2/0 clones, not for NS0. SAFC Biosciences does not recommend using EX-CELL™ Sp2/0 for NS0 clones.

### What are the recommended cell culture conditions using EX-CELL™ NS0 and EX-CELL™ Sp2/0? What are the critical parameters?

EX-CELL™ NS0	
Minimum Seeding Density	2 x 10 <sup>5</sup> cells/mL
Passage frequency	3 - 4 days or until densities reach 1-2 x 10 <sup>6</sup> cells/mL
Supplements added at time of use	8 mM L-glutamine
Environment (temperature, CO <sub>2</sub> , agitation)	37 C (humidified incubator), 5% CO <sub>2</sub> and 105 - 115 rpm on shaker platform

EX-CELL™ Sp2/0	
Minimum Seeding Density	3 x 10 <sup>5</sup> cells/mL
Passage frequency	2 - 3 days or until densities reach 1-2 x 10 <sup>6</sup> cells/mL
Supplements added at time of use	8 mM L-glutamine
Environment (temperature, CO <sub>2</sub> , agitation)	37 C (humidified incubator), 10% CO <sub>2</sub> and ~165 rpm on shaker platform

### How do I adapt cells to these media? Is there a difference between the parental line and a hybridoma?

NS0 and Sp2/0 hybridoma cells grown in a serum-containing medium can be readily grown in EX-CELL™ NS0 and EX-CELL™ Sp2/0 medium with little or no adaptation by using healthy, viable cultures in mid-logarithmic growth phase prior to adaptation. SAFC Biosciences does not have data on the adaptation of NS0 parental lines from serum-containing medium to EX-CELL™ NS0. Use standard weaning techniques if deemed necessary to accomplish complete adaptation of NS0 parental cells. Sp2/0 parental cells can be readily grown in EX-CELL™ Sp2/0 with little or no adaptation.

#### United States

SAFC Biosciences, Inc.  
13804 W. 107th Street  
Lenexa, Kansas 66215  
USA  
Phone +1 913-469-5580  
Toll free-USA 1 800-255-6032  
Fax +1 913-469-5584  
E-mail info-na@sial.com

#### Europe

SAFC Biosciences Ltd.  
Smeaton Road, West Portway  
Andover, Hampshire SP10 3LF  
UNITED KINGDOM  
Phone +44 (0)1264-333311  
Fax +44 (0)1264-332412  
E-mail info-eu@sial.com

#### Asia Pacific

SAFC Biosciences Pty. Ltd.  
18-20 Export Drive  
Brooklyn, Victoria 3025  
AUSTRALIA  
Phone +61 (0)3-9362-4500  
Toll free-AUS 1 800-200-404  
Fax +61 (0)3-9315-1656  
E-mail info-ap@sial.com

## How do I adapt from another serum-free medium?

NS0 and Sp2/0 hybridoma-derived clones tested in serum-free medium were directly adapted to EX-CELL™ NS0 and EX-CELL™ Sp2/0 following the same procedures used for adapting from serum.

## Do EX-CELL™ NS0 and EX-CELL™ Sp2/0 contain animal components or protein?

EX-CELL™ NS0 and EX-CELL™ Sp2/0 media are serum-free, protein-free, animal-component free and chemically defined.

## Can EX-CELL™ NS0 be used for transfection?

SAFC Biosciences does not have data to adequately answer this question at this point in time.

## Do EX-CELL™ NS0 and EX-CELL™ Sp2/0 support clonal growth?

EX-CELL™ Sp2/0 will support growth of Sp2/0 hybridoma cells planted at a theoretical single cell count. EX-CELL™ NS0 did not support clonal growth of NS0 hybridoma cells.

## What are the best methods for protein purification for product produced from EX-CELL NS0 and EX-CELL Sp2/0?

EX-CELL™ NS0 and EX-CELL™ Sp2/0 are serum-free, protein-free, animal-component free and chemically defined; therefore, downstream processing including protein purification becomes much more amenable. Protein purification can involve a number of steps to achieve a satisfactory yield of final product. These methods can include ultra-filtration and/or chromatography including affinity, size and charge separation. Most likely a combination of these will need to be utilized to attain acceptable yields.

For more information about this subject or other SAFC Biosciences' products and services, please call our Technical Services department.

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### United States

SAFC Biosciences, Inc.  
13804 W. 107th Street  
Lenexa, Kansas 66215  
USA  
Phone +1 913-469-5580  
Toll free-USA 1 800-255-6032  
Fax +1 913-469-5584  
E-mail info-na@sial.com

### Europe

SAFC Biosciences Ltd.  
Smeaton Road, West Portway  
Andover, Hampshire SP10 3LF  
UNITED KINGDOM  
Phone +44 (0)1264-333311  
Fax +44 (0)1264-332412  
E-mail info-eu@sial.com

### Asia Pacific

SAFC Biosciences Pty. Ltd.  
18-20 Export Drive  
Brooklyn, Victoria 3025  
AUSTRALIA  
Phone +61 (0)3-9362-4500  
Toll free-AUS 1 800-200-404  
Fax +61 (0)3-9315-1656  
E-mail info-ap@sial.com