

# Technical Bulletin

## EX-CELL™ Serum-Free Media for Virus Production

### EX-CELL™ 293

#### Serum-Free Medium for HEK 293 Cells

EX-CELL™ 293 is an animal-protein free, serum-free medium developed for the long-term growth of Human Embryonic Kidney 293 (HEK 293) and related cells. The cells, in a suspension culture, can be subcultured directly into EX-CELL™ 293 from serum-supplemented media with little or no adaptation. Suspension cultures can be maintained, without refeeding, for about 10 days and can be carried for more than 20 passages with no loss of viability.

### EX-CELL™ Vero

#### Serum-Free Medium for Vero Cells

EX-CELL™ Vero is a serum-free, animal-component free, low-protein liquid medium developed for the long-term growth of African Green Monkey Kidney (Vero) cells. The cells, in an attachment culture, can be subcultured directly into EX-CELL™ Vero from serum-supplemented media with little or no adaptation. Cell densities and doubling times achieved are comparable to those achieved in a serum-supplemented culture.

### EX-CELL™ VPRO

#### Serum-Free Medium for Retinoblast Cells

EX-CELL™ VPRO is an animal-protein free, serum-free medium developed for the long-term growth of Human Embryonic Retinoblast cells (PER.C6® and related cell lines). The cells can be subcultured directly into EX-CELL™ VPRO from serum-free media with little or no adaptation. PER.C6® cells can be grown as suspension cultures either in shaker flasks or roller bottles, with roller bottles being the preferred culture system. Suspension cultures can be maintained, without refeeding, for approximately 10 days and can be carried for more than 20 passages with no loss of viability.

### EX-CELL™ MDCK

#### Serum-Free Medium for MDCK Cells

EX-CELL™ MDCK is an animal-protein free, serum-free medium developed for the long-term growth of Madin Darby Canine Kidney (MDCK) and related cells. The cells, in an attachment culture, can be subcultured directly into EX-CELL™ MDCK from serum-supplemented media without adaptation. Cell densities and doubling times achieved under serum-free conditions are comparable to those achieved in a serum-supplemented culture.

### EX-CELL™ HeLa

#### Serum-Free Medium for HeLa Cells

EX-CELL™ HeLa is an animal-protein free, serum-free liquid medium developed for the long-term growth of HeLa cells in suspension culture. The HeLa cell line is a clonal derivative of the parent HeLa cell line and is capable of growth in suspension culture. HeLa suspension cultures can be subcultured directly into EX-CELL™ HeLa from serum-supplemented or serum-free media. Suspension cultures in EX-CELL™ HeLa have been carried for more than 25 passages with no loss of growth or viability.

Refer to product comparison chart inside publication for more information about EX-CELL™ 293, EX-CELL™ Vero, EX-CELL™ VPRO, EX-CELL™ MDCK and EX-CELL™ HeLa.

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# Product comparison chart:

## EX-CELL™ 293, EX-CELL™ Vero, EX-CELL™ VPRO, EX-CELL™ MDCK and EX-CELL™ HeLa

	EX-CELL™ 293		EX-CELL™ Vero		EX-CELL VPRO		EX-CELL™ MDCK		EX-CELL™ HeLa
Catalog Number	14571	24571	14585	24585	14561	24561	14581	24581	14591
Format	Liquid	Dry Powder	Liquid	Dry Powder	Liquid	Dry Powder	Liquid	Dry Powder	Liquid
Standard Sizes	500 mL 1000 mL	1 L 5 L 10 L 50 L 100 L	500 mL 1000 mL	5 L 10 L 50 L	500 mL 1000 mL	1 L 5 L 10 L 50 L 100 L	500 mL 1000 mL	1 L 5 L 10 L 50 L 100 L	500 mL 1000 mL
Applicable Systems	Suspension		Adherent		Suspension		Adherent		Suspension
Protein Level	1.1 mg/L		0.5 mg/L		1.1 mg/L		1.1 mg/L		1.1 mg/L
Protein Source*	Recombinant		Recombinant		Recombinant		Recombinant		Recombinant
Hydrolysate Source	Plant		Plant		Plant		Plant		Plant
L-glutamine	No, add 6 mM	Yes, 6 mM	No, add 4 mM	Yes, 4 mM	No, add 6 mM	Yes, 6 mM	No, add 6 mM	Yes, 6 mM	No, add 6 mM
HEPES	No		No		No		No		No
Pluronic® F68	0.1%		No		0.1%		0.1%		0.1%
Glucose	6.0 g/L		6.0 g/L		6.0 g/L		6.0 g/L		6.0 g/L
Hypoxanthine & thymidine	Yes		Yes		Yes		Yes		Yes
Sodium bicarbonate	Yes, 1.8 g/L	No, add 1.8 g/L	Yes, 2.7 g/L	No, add 2.7 g/L	Yes, 1.8 g/L	No, add 1.8 g/L	Yes, 1.8 g/L	No, add 1.8 g/L	Yes, 1.8 g/L

\*All protein products of bovine origin are collected from USDA approved sources.

The formulations for all EX-CELL™ Serum-Free Media are proprietary to SAFC Biosciences. For more information about this subject or other SAFC Biosciences’ products and services, please call our Technical Services department.