Vero Adherent Cell Serum Reduction Protocol

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Product description

Vero cells can be adapted to reduced serum conditions using the following protocol.

Required materials not supplied

- Base medium Thermo Fisher Scientific DMEM (Cat. No. 11995) or 50/50 mix of Thermo Fisher Scientific DMEM/Ham's F12 (Cat. No. 11995 and 11765)
- Gibco[™] ITS-X (Insulin-Transferrin-Selenium-Ethanolamine) Solution (100X) (Cat. No. 51500056)
- Gibco[™] Fibronectin Bovine Protein (Cat. No. 33010018)(for increased cell adhesion)
- Gibco[™] TrypLE and Soybean Trypsin Inhibitor (Cat. No. 17075029)
- Gibco[™] Difco[™] Soytone (Cat. No. 212488)
- Gibco[™] Bacto TC Yeastolate (Cat. No. 255772)
- Gibco[™] Wheat Peptone 100 UF (Cat. No. 670140)

Unless otherwise indicated, all materials are available through thermofisher.com.

Protocol

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• For Vero cells grown in 5-10% serum (FBS for example), reduce the serum concentration to 2% while maintaining growth (doubling time). Passage cells with sequentially lower concentrations of serum as shown in table below:

Adaptation Step	Seeding Density	Culture Conditions	Next Adaptation Step Criteria	
7.5% FBS				
5% FBS	3×10^3 cells/cm ²	Grow until the cells reach 70-90% confluency and	Culture must retain acceptable doubling time and >90% viability for 3 passages	
3% FBS		maintain acceptable merphology.		
2% FBS	3×10^3 cells/cm ² to 3×10^4 cells/cm ²	Allow for 3-4 passages at 100% New Medium before creating cell banks and moving to the production system.	Cell culture is considered adapted only when it retains acceptable doubling time and a minimum of 90% viability over several cell passages.	

Note: If necessary, add the ITS-X and fibronectin supplements to the culture to maintain the adherence of the cells.

Once cells are well adapted to 2% serum conditions, test the following peptones to determine which will achieve the desired doubling times and maintain acceptable morphology.

Note: If necessary, add the ITS-X and fibronectin supplements to the cell culture medium.

Conditions	Gibco [™] Difco [™] Soytone	Gibco [™] Bacto [™] TC Yeastolate	Gibco [™] Wheat 100 UF
1	—	-	-
2	3 g/L	-	—
3	_	3 g/L	—
4	1.5 g/L	1.5 g/L	-
5	1.5 g/L	-	—
6	_	1.5 g/L	—
7	_	-	3 g/L
8	—	-	1.5 g/L
9	1.5 g/L	_	1.5 g/L
10	_	1.5 g/L	1.5 g/L

Limited product warranty

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