Virus Production Questionnaire

Please answer the following questions as completely as possible. The information here will be kept with utmost confidentiality and will only be used to generate a customized protocol for your facility.

I. Customer Information	
Contact Person	
Designation	
Department	
Company Name	
Contact Number	
Email Address	

I. General Details		
1.	Target Product	☐ Secreted Protein ☐ Non-secreted Protein ☐ Cell Bank ☐ Monoclonal Antibody ☐ Secreted Virus ☐ Non-secreted Virus ☐ Autologous Cell Therapy ☐ Allogeneic Cell Therapy ☐ Others:
2.	Cell Type	☐ Adherent Cell ☐ Suspension Cell ☐ Microbial ☐ Stem Cell

(Different cell line, different application has to be filled in separate questionnaire).

Adherent Cells Questionnaire

II. Experiment Details		
A.	Cell Culture	
1.	Cell Line	☐ CHO ☐ MDCK ☐ Vero ☐ HEK 293 ☐ Hybridoma ☐ Sf 9 ☐ Others:
2.	Any Special features or peculiarities of the cell line or culture methods?	
3.	Intended Use	☐ Human Use ☐ Animal Use
4.	Target Product	☐ Secreted Protein ☐ Non-secreted Protein ☐ Cell Bank ☐ Monoclonal Antibody ☐ Secreted Virus ☐ Non-secreted Virus ☐ Others:
5.	Current Culture System	☐ T-flask _____ cm^2 x _____ Pcs ☐ Petri dish _____ mm x _____ Pcs ☐ Roller Bottle _____ cm^2 x _____ Btls ☐ Spinner flask _____ ml x _____ Btls Carriers: ( ) ☐ Cell Factory / Cell Stack (Multi-layer) _____ cm^2 x _____ Pcs (total surface area) ☐ Stirred-tank Bioreactor _____ ml x _____ Vessel Carriers: ( ) ☐ Others:
6.	Media Volume Capacity	• Working Volume Capacity _____mL / Pc (or /Btl) • Total Volume Capacity _____mL / Batch

		Please specify if media volume is different after virus infection
7.	If carriers are used, please specify type and amount of carrier.	☐ Microbeads. Specify: ☐ Fibers Specify: ☐ Others Specify: ☐ Amount of carriers:
8.	Medium exchange frequency for current system - During Cell Culture	☐ 24 hours (1 day) ☐ 48 hours (2 days) ☐ 72 hours (3 days) ☐ Other: _____hours (_____days) ☐ Media volume per change: _____ ml
9.	Medium exchange frequency and volume for current system - Post Infection	☐ 24 hours (1 day) ☐ 48 hours (2 days) ☐ 72 hours (3 days) ☐ Other: _____hours (_____days) ☐ Media volume per change: _____ ml
10.	Culture condition during cell culture	☐ Media: ☐ Serum: ☐ Temperature: ☐ CO_2 concentration of incubator
11.	Concentration of additives	☐ Sodium Bicarbonate: ☐ Hepes buffer: ☐ Others:
12.	Glucose Concentration in initial culture medium	_____ g/L
13.	Cell Harvesting (Cell dissociation) required	☐ Yes ☐ No
14.	Cell Harvest (Cell Dissociation) method if have	☐ Trypsin ☐ Enzymatic Dissociation Reagents (Specify:) ☐ Non-Enzymatic Dissociation Reagents (Specify:) ☐ Others:
15.	Cell Quantification (Cell Counting)	☐ Manual Counting ☐ Auto-counter ☐ Nuclei counting ☐ Others:
16.	Access to bio-analyzer for measuring glucose, lactate, glutamine, etc	☐ Yes ☐ No
17.	System Preference	☐ Prefer Single-Use ☐ Prefer Multiple-Use

		☐ No preference
18.	Current System Annual dose (product quantity)	
19.	Current System average total cell density (per single system eg., per 1 roller bottle)	• Seeding Cell Density : • Harvesting End Cell Density: • Cell Density before virus infection:
20.	Do you have scale up plan?	☐ Yes ☐ No
21.	Expected Scale when scaled up (Cell Density, Doses etc)	
B.	Virus production	
22.	Virus Strain	
23.	Please describe the virus strain. (ds/ss DNA, ds/ss,+/- RNA, temperature sensitivity etc)	
24.	Cell Stability during post infection	☐ Yes, grow and attach same as before infection ☐ A little less stable than before infection ☐ No, cells tend to detach post infection period in _____hours ☐ Others
25.	Do cells propagate after virus infection?	☐ Yes Fold increase post infection: ☐ No ☐ Not sure
26.	What is the temperature of virus be active?	
27.	Is the virus stable during post infection?	
28.	Culture Condition during post infection	☐ Media ☐ Serum ☐ Temperature ☐ Others:
29.	Glucose concentration in post infection culture medium	_____ g/L
30.	Does virus MOI sensitive of temperature difference?	☐ Yes ☐ No ☐ Not sure ☐ Others:

31.	Cell density prior to infection in current culture system	
32.	Multiplicity of infection (MOI)	
33.	Virus titer in current culture system	_____pfu/ml _____dose/ml
34.	Best phase for infection	☐ Seed cells with virus ☐ Right after seeding ☐ Exponential phase ☐ Plateau phase ☐ Not sure (_____hours after cell culture)
35.	Cell lysis occur after infection?	☐ Yes ☐ No ☐ Not sure ☐ Others:
36.	If yes, period of time for cell lysis in current culture system	_____ hours post infection
37.	Best time to harvest the virus	_____ hours post infection
38.	Is there CPE (Cytopathic effect) after infection? When?	☐ Yes _____ hours post infection ☐ No ☐ Not sure
39.	What kind of CPE (cytopathic effect) is formed?	☐ Monolayer Destruction ☐ Swelling ☐ Clumping ☐ Vacuolization ☐ Inclusion bodies ☐ Others:
40.	Number of harvest that is done during post infection period	☐ Single harvest ☐ Multiple harvest _____times with _____interval hours Harvest volume in each time: _____mL ☐ Continuous harvest _____days with total volume of_____mL ☐ Others:
41.	After cell harvest, is any post process is required?	☐ Yes Method: _____(eg., centrifugation) ☐ No ☐ Not sure

42.	Downstream process required	☐ Yes Specify: (_____) ☐ No
43.	Can you provide general virus production profile in existing system?	
C.	CelCradle™ System	
44.	Seeding 1 – 3 x 10^8 cells be difficult?	☐ Yes ☐ No If yes, how many cells do you plan to seed?
45.	CO2 incubator be exclusively used for the CelCradle™ System?	☐ Yes ☐ No
46.	Can you adjust the CO2 concentration of incubator?	☐ Yes ☐ No
47.	What are the challenges / limitations you experience with your current system?	
48.	What is your expectation using our system?	
49.	Is there any changes required from your existing process protocol?	☐ Yes ☐ No
50.	With Tide-motion bioreactor, is it okay to change the process protocol?	☐ Yes ☐ No