**Virus Production Questionnaire**

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

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|  **II. General Details**  |  |
| 1.  | Target Product  | [ ]  Secreted Virus [ ]  Non-secreted Virus [ ]  Others: |
| 2.  | Cell Type  | [ ]  Adherent Cell[ ]  Suspension Cell  |
| 3. |  What is the intended use for the product? e.g. animal vaccine, clinical phase, raw material for clinical trials  |
| 4. |  What is the analytical technique for measuring viral titer?  |
| 5. | Target viral titer, volume and yield | Titer (pfu/mL):Volume (L):Yield (pfu): |
| 6. | Current titer, volume and yield  | Titer (pfu/mL):Volume (L):Yield (pfu): |
| 7. | What is process development (PD) and optimization step required?  | [ ]  Cell line development, e.g. vector engineering, transfection protocol [ ]  Upstream development, e.g. bioreactor media optimization, harvest protocol [ ]  Downstream development, e.g. optimization of platform process, resin/ media screening [ ]  Analytical development/characterization, e.g. analysis of virus titer, residual host cell protein/ DNA, nanoparticle analysis or imaging [ ]  No PD required. Process to be transferred at existing scale to manufacturing  |
| 8. | Any Master Viral Banking and Characterization required?  | [ ]  Master Viral Bank[ ]  Master Viral Banking Characterization  |
| 9. | Any additional services required?  | [ ]  Analytical Method Validation[ ]  cGMP manufacturing and lot release cGMP[ ]  Stability testing[ ]  Sterility testing of final product[ ]  Adventitious virus testing[ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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|  **III. Experiment Details**  |  |
| 1.  | Cell Line  |  [ ]  HEK 293 Subtype, e.g. HEK293T:\_\_\_\_\_\_\_\_\_\_\_[ ]  CHO[ ]  MDCK[ ]  Vero[ ]  HEK 293[ ]  Hybridoma[ ]  Sf 9[ ]  Others: |
| 2. | Describe current cell culture and virus production protocols, including transfection/virus infection steps. |
| 3. | Describe harvest protocol, e.g. lysis or clarification steps.Number of harvests x volume of each harvest: \_\_\_\_\_\_ x \_\_\_\_\_mL : \_\_\_\_\_\_ x \_\_\_\_\_mL |
| 4. | Describe current downstream processing/ post-harvest processing, e.g. ultracentrifugation, filtration, chromatography, etc. |
| 5. | Any animal serum at any point in the process?  | [ ]  Yes, what percentage?[ ]  No |
| 6. | Is the media a chemically defined formula?  | [ ]  Yes, chemically defined[ ]  No, contains animal derived products  Media description:  |
| 7. | What is the cell density? | * Seeding Cell Density:
* Cell Density at first harvest:
* Cell Density at last harvest:
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| 8. | Virus name and strain  |  |
| 9. | Please describe the virus strain morphology, e.g. ds/ss DNA, ds/ss, +/- RNA, any lipid envelope, temperature sensitivity, surface proteins, etc： ds / ss DNA，ds / ss，+ / - RNA |
| 10. | Cell health and stability post infection  | [ ]  Yes, no significant differences observed[ ]  Somewhat stable, differences observed for cell health[ ]  No, cells tend to detach post infection period in  Hours   |
| 11. | Do cells propagate after virus infection?  | [ ]  Yes：Fold increase post infection: [ ]  No [ ]  Not sure  |
| 12. | Is the virus stable during post infection? | [ ]  Yes, virus does not degrade until harvest[ ]  No, virus starts to degrade as soon as it is produced  |
| 13. | Best phase for infection  | [ ]  Cells seeded with virus infected already[ ]  Right after seeding[ ]  Exponential phase[ ]  Plateau phase [ ]  Not sure( hours after cell culture) |
| 14. | Does cell lysis occur after infection?  | [ ]  Yes, it occurs \_\_\_\_\_\_ hours after infection [ ]  No[ ]  Not sure [ ]  Others: |
| 15. | Best time to harvest the virus  |  hours post infection |
| 16. | Is there CPE (Cytopathic effect) after infection? When?  | [ ]  Yes hours post infection Describe the CPE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_[ ]  No[ ]  Not sure |