**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: | |
| 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 | |