

Generic Questionnaire for Biopharmaceutical Production Candidates

Principal Investigator:

Institution:

Name of Clinical Candidate and Description:

Target Product Profile

1. Primary clinical indication
2. Delivery mode, e.g. oral, i.v., etc.
3. Dosage form and formulation
4. Dosing schedule

Manufacturing Quantities

1. What amount(s) of delivered product(s) is needed? Designate whether laboratory grade or clinical GMP grade is required.

General Product Development Considerations for all Biologics

1. Describe the target specifications, release criteria & assays for identity, purity, and potency of this product.
2. Is there material available as a reference standard? How much?
3. Is there material available as purified bulk biological substance for preliminary pharmacology and toxicology studies? How much?
4. What is the final product formulation, form (liquid vs. lyophilized) and fill size? Are there issues of formulation that must be resolved?
5. What is known about the stability of the product with respect to physical integrity and activity?
6. Have any sources of commercial production been identified? Provide any details that you have.
7. Are there any safety issues connected with the production, purification, and/or handling of this product?
8. Is a master cell bank and/or master virus bank available to support production of the product?
9. Provide details of the current production system, including media requirements. Include media and additives that should be avoided
 - A. What is the current yield of production?
 - B. What is the current yield of purification?
 - C. What is the largest amount of material ever produced and purified in the laboratory in a single production batch?
10. Intellectual Property: What is the status of the product(s) with regard to intellectual property issues?
11. Have you had or are you preparing to have any meetings with regulatory agencies, such as a pre-IND meeting with the US FDA? If so, indicate the type of meeting, the regulatory agency, and the date or proposed date.

12. Who will sponsor the IND for the proposed study?
13. Has a source of funding and/or collaboration been identified for performing the clinical trial with this product?

Recombinant Proteins and Cellular Therapies

1. Provide details of the expression construct or starting materials and information on the derivation of the cell line.
2. What expression systems and/or cell substrates have been tried for this product? What expression system/platform has been selected for production?
3. For mammalian cell products, virus inactivation or elimination may involve treatment with acid, detergent, or filtration. Please provide information, if available, about the stability of the product(s) under these conditions.

Oligonucleotides and Plasmid Products

1. Provide:
 - a. Sequence.
 - b. Any unusual nucleotides or properties of the construct (e.g., sequence optimization):
 - c. Whether the construct contains an antibiotic-resistance gene or other selectable marker; indicate which and describe any alternative methods of selection that may be available.

Peptide Products

1. Peptide Information
 - a. Sequence/reference to sequence
 - b. Any unusual amino acids or properties of the peptide

Recombinant Virus Vectors

1. Provide details of the molecular construct including starting materials (e.g. plasmids, relevant vector maps, detailed vector construction scheme, etc.)
2. Is the vector replication competent or replication defective? (For replication-selective vectors, please describe the molecular basis of the selectivity and the conditions under which the vector would replicate.)
3. Does the vector have an altered cell tropism? If so, describe.
4. Are there data regarding the genetic stability of the recombinant vector? Have mutation rates and/or rates of reversion to either wild type or alternate viral genomes been established?
5. Are there data evaluating the potential for genetic recombination with other organisms in the patient or in the environment? If so, describe.
6. Production System:
 - A. Is the organism currently being produced in a qualified cGMP cell line? If not, is there a qualified cell line available for propagation of this vector?
 - B. Was the cell line genetically modified to support this vector? If so, describe the details of its construction and any information available regarding the stability of the genetic alteration in the cell line.
 - C. Has this material ever been produced in a related or other production system? If so, provide the details.