***Case Study: Development Plan for phase 1 clinical trial - Pharma***

***Product Profile – Your product is a monoclonal antibody to be used in a phase 1 clinical trial in oncology. The company, named Swiss BioTech with headquarters located in Switzerland. This company is the discoverer of the product in question. The planned phase 1 clinical trial will be conducted in Germany.***

References are given but students are also expected to do their own literature search.

Please read this documents / guidance before start:

(Ref 1)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5319201/>

Guidance:

(Ref 2)

<https://ec.europa.eu/health/documents/eudralex/vol-10_en>

**Part A: Preclinical Plan**

Write a clear preclinical plan on the work that needs to be done and included in the application for the above mentioned Investigational Medicinal Product. In other words, describe in short the preclinical studies to cover the clinical trial, namely the animal studies, the duration of treatment, pharmacology and toxicology studies in the appropriate animal model.

Guidance:

(Ref 3)

<https://database.ich.org/sites/default/files/M3_R2__Guideline.pdf>

(Ref 4)

<https://database.ich.org/sites/default/files/S9_Guideline.pdf>

(Ref 5)

* <https://journal.emwa.org/preclinical-studies/an-introduction-to-little-known-aspects-of-nonclinical-regulatory-writing/>

**Part B: Clinical Plan**

Draft a Clinical Trial Protocol to be included in the application for the above-mentioned Investigational Medicinal Product.

*Define the main points of the clinical trial protocol, can you consider a Master Protocol:*

*(Ref 6)*

[*http://www.nature.com/news/master-protocol-aims-to-revamp-cancer-trials-1.13176*](http://www.nature.com/news/master-protocol-aims-to-revamp-cancer-trials-1.13176) *and*

*(Ref 7)*

[*http://www.nejm.org/doi/full/10.1056/NEJMra1510062#t=article*](http://www.nejm.org/doi/full/10.1056/NEJMra1510062#t=article)

*Consider PRIME and Breakthrough Designations*

Guidance and reference:

(Ref 8)

<https://database.ich.org/sites/default/files/E6_R2_Addendum.pdf>

**Part C: Chemistry, Manufacturing and Controls, CMC**

Write a clear CMC plan on the work that needs to be done and included in the application for the above mentioned Investigational Medicinal Product. (Emphasize the level of detail required.)

Guidance and reference:

(Ref 2)

[**https://ec.europa.eu/health/documents/eudralex/vol-10\_en**](https://ec.europa.eu/health/documents/eudralex/vol-10_en)

**(Ref 9)**

<https://ec.europa.eu/health/sites/health/files/files/eudralex/vol-10/18540104en_en.pdf>

**Part D: Pre-IND Meeting / Scientific Advice**

*Include a summary of the project background, the questions with the opinion of the company, number of attendees, and the time for the meeting (ideally)*

*(No Ref File – link to a site)*

<https://www.pei.de/EN/information/license-applicants/advice/scientific-advice/scientific-advice-node.html>

(Ref 10)

<https://www.ema.europa.eu/en/human-regulatory/research-development/scientific-advice-protocol-assistance>

**Part E: Inspection Readiness**

Please write a summary of the work that a company needs to have ready before the inspection to ensure compliance to GxP. Extract some details from the Week 3 presentation. Important is to know the points the inspector normally goes through during an inspection.

Guidance:

(Ref 11)

<https://ec.europa.eu/health/sites/health/files/files/eudralex/vol-10/2008_11/vpl10_an5_10-2008_en.pdf>