

BT5441 – Elements of Biopharmaceutical Manufacturing**Assignment 1**

You are supposed to examine the effects of gene insulators in vector constructs from literature survey and propose possible constructs for evaluation. Imagine yourself as a experimentalist who want to use insulators in your vector construct to avoid transgene silencing. But you are not sure how to go about it. Therefore, use following steps sequentially to design your experiment:

1. Do a thorough literature survey and describe the different type of insulators which can be used for overcoming transgene silencing in mammalian cells. (40 marks)
2. Based on literature survey, comment and discuss the effect of different insulators surveyed in step 1 when there is a change in promoters. You may assume that you should evaluate the effect of insulators in at least two different promoters. (20 marks)
3. Based on the understanding from step (1) and step (2), propose different type of vector constructs involving different combinations of promoter and insulator in each construct and also mention how the different constructs can be tested with a marker protein such as GFP or mCherry. (30 marks)

Submit your completed assignment report and supplementary files (if any) in Turnitin **by 22 September 23:59:59 hrs.**

Things to note:

1. Work as a team of three. You will be later asked to evaluate your peers contribution in the assignment.
2. Total report cannot exceed three pages. Use arial as font in your assignment. Font size has to be minimum of 10. Margins on all four sides of the page cannot be less than 1 inch. Three page limit is not applicable for references and annexes. The three page limit does not include your references and any annexe/supplementary items such as table, figure, writeup, etc. 10 marks is allocated for adherence of mentioned formatting.
3. References for all your literature survey obtained results is must. Please follow numbered format for references.
4. Please state all the assumptions very clearly at the start of assignment.