

GS551 - 2006

Written Assignment for Tuesday October 17th

Go to the literature and determine the size of the DNA binding sites of 4 different transcriptional regulators from bacteria (e.g., lacI, CAP, TrpR, lambda cI), yeast (e.g., GCN4, GAL4, GAL80, ADR1), Drosophila (e.g., Giant, Zeste, Bicoid, Hunchback), and mammals (e.g., SP1, GATA-4, MYO-D, p53). (Feel free to find other transcription factor binding sites as well.). Generate a table with the information. What is the size of the genomes in each of these organisms? What is the relationship between genome size and the size of the average transcription factor binding site? Discuss the possible reasons for the relationship.