Chapter 1 project: Exploration questions **DUE) 11:00am Wed., January 23**

Student: _____ Partner (if any): _____

Part I: Regarding SNP rs34637584

1) On which human chromosome is this SNP located and at what position?

2) Does rs34637584 occur within a gene or between genes? If it occurs within a gene, is it within an exon or an intron?

3) Describe the Alleles that occur through variation at this site?

4) List the genes found within approximately 500kb on either side of the SNP

5) Has this site or any of the nearby genes been associated with PD previously?

6) What evidence did you find to support the identification of one or more of the genes in this region as a candidate for PD-associated gene?

(see reverse)

Part II: Regarding SREBF1 gene

7) How long is the entire SREBF1 gene?

8) When you click on the CDS link in a GenBank entry, only short segments of the gene sequence are highlighted. What do these highlighted segments represent?

9) How long is the spliced mRNA for SREBF1? What fraction of the gene is thrown away in the form of spliced-out introns?

10) What accounts for the difference between the sequence segments that are highlighted when you click on the mRNA link versus when you click on the CDS link?

11) How long is the SREBF1 protein in amino acids? What are the first 10 amino acids in the protein sequence?

12) What is known about the function of this gene?

13) Besides its hypothetical associate with PD, what are two other known connections of SREBF1 to disease?