You are currently working in a lab that studies chemoreception in arthropods. The genes that may be of potential interest to your studies are ‘OBP’ or the Odorant binding proteins. Your lab uses the model organisms *Drosophila melanogaster* & *Apis mellifera* for studies. Write a 1.5-2pg report addressing the following questions.

1. Why is Chemoreception important and what role does OBP play in both the model organisms?
2. How similar are the OBP gene familes of both the organisms?
3. Which of the OBP genes are homologues and how closely are they related to each other ?

The Genome accession numbers for both the organisms are :

*Drosophila melanogaster* : [SAMN02803731](https://www.ncbi.nlm.nih.gov/biosample/SAMN02803731" \t "_blank)

*Apis mellifera* : [SAMN00002455](https://www.ncbi.nlm.nih.gov/biosample/SAMN00002455" \t "_blank)

Given below is the arrangement of the the OBP genes in *D. melanogaster* genome:

