

**Examining Enhancers and PREs In Relation to Gene Expression in the Eyes Absent Gene Within
Drosophila melanogaster
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Drosophila melanogaster, commonly known as the fruit fly, has been used throughout genetics research due to its quick reproductive capabilities and rapid life cycle. Fruit flies have a similar genetic makeup to many other organisms, including humans. One of these similar genes is the eyes absent gene, also known as the Eya gene. The Bateman lab has conducted much research with this particular gene as its focus. The Eya gene is responsible for eye development across all seeing animals. The *Drosophila* compound eye is composed of individual photoreceptor cells called ommatidium. Mutations that completely disrupt the transcription of the Eya gene leads to *Drosophila* phenotypes that lack a compound eye. When the Eya gene is expressed in other tissues, it produces an ectopic eye.

