

Name _____
Literacy Lab #9: "Insomnia Gene"

Date _____
Living Environment: Comet 2011-2012

"Insomnia Gene' Discovery Offers Hope For Sleep Deprivation Treatment"

Directions: Take a few minutes to read the article below either online (or on the back of this page.) Write responses to the statements or questions below. Cut/copy/paste is not allowed – use your own words and thoughts, based in research if needed.

Read more: http://www.huffingtonpost.co.uk/2012/02/22/scientists-discover-insomnia-gene_n_1293691.html#s617103&title=10_Ways_To

Fact-finding: List three facts that you learned in this article.

1.

2.

3.

Vocabulary: List and define three unfamiliar words in the space below.

Implications: What are your feelings about this "discovery"? Why is this type of research important/unimportant? Fully explain your answers.

“Insomnia Gene' Discovery Offers Hope For Sleep Deprivation Treatment”

Scientists have discovered a faulty gene that causes insomnia in fruit flies and hope their discovery will bring them a step closer to curing sleep disturbances in humans.

Researchers from the [Rockefeller University](#), New York, identified a genetic mutation in fruit flies and found that carriers slept two thirds less than normal.

The experts claim that the 'insomnia gene' works by eliminating specific proteins in the neurons of the brain that help regulate and bring on sleep.

If this degradation neuron pathway, called Cul3, is correct, it will be the first time that sleep has been linked specific proteins.

However, if you are struggling to see the connection between fruit flies and humans – researchers say that although there is little common ground in lifestyle, the mechanisms of sleep between flies and humans are quite similar.

Scientists cloned and tested the faulty gene, nicknamed the 'insomniac', in more than 20,000 fruit flies and discovered an entirely new sleep mechanism altogether.

Researchers used an infrared beam to see when the flies fell asleep. They found that gene carriers slept for just 317 minutes a night compared to the average 927 minutes. They also discovered that flies with the insomnia gene napped for shorter periods and woke up more frequently.

“The results showed a dramatic loss of both the duration of the flies' sleep and their ability to remain asleep after they dozed off,” Nicholas Stavropoulos from the study, [said in a statement](#).

“But what's especially interesting is that the insomniac gene may function through homeostatic mechanisms. These are distinct from the well-studied circadian clock pathways linked to sleep, and have an effect on the body regardless of the time of day.”

Looking into the link between lifespan and insomnia, scientists challenged the existing theory that fruit flies with the faulty gene lived two thirds shorter than normal flies. They found that when they eliminated the gene from the neuron, the flies still slept poorly, but lived just as long.

“This suggests that reduced sleep can be 'uncoupled' from reduced lifespan, supporting the idea that some disruptions of sleep do not affect overall health, at least as far as lifespan is concerned,” Stavropoulos added in the statement.

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