

Variation, mutations and the Human Genome Project

Do most features depend on one gene or many?

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What is genetic variation?

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What is environmental variation?

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Continuous or discontinuous variation: which has distinct categories?

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How do you calculate an arithmetic mean?

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What was the Human Genome Project?

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Give two medical applications of the Human Genome Project.

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How does extensive genetic variation in a population arise?

Different characteristics as a result of mutation and sexual reproduction.

Most phenotypic features are the result of multiple genes rather than single gene inheritance.

Discontinuous. Continuous variation gives a range of values, such as height.

Different characteristics caused by an organism's environment (acquired characteristics).

A project that mapped the human genome, identifying the sequence of bases in human DNA.

Add all the values and divide by the number of values.

Through mutations.

Finding genes linked to inherited disorders for testing and risk prediction, and developing treatments matched to genes.

What effects do mutations have on the phenotype?

Most have no effect, some have a small effect, and rarely a single mutation significantly affects the phenotype.