Plantastic Discoveries

What is a

genetic marker?



A genetic marker is a specific DNA sequence with a known location on a chromosome. It can be associated with a particular trait or condition.

Example

This part of the DNA represents a gene in rice called GS3. The GS3 gene controls grain size.

Genetic markers are used in various fields of genetics. They can help map the location of genes, identify individuals, study genetic diversity, and assist in the diagnosis of genetic disorders.







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repeats) USE: for genetic fingerprinting, paternity testing, population genetics studies

short, repetitive DNA

sequences (tandem

Microsatellites

USE: in genome-wide association studies (GWAS) to identify genetic variations associated with specific traits or diseases

DNA sequence

- most common type a single nucleotide change in the

Single Nucleotide Polymorphisms (SNPS)

What are some types of genetic markers?

Genetic markers play a crucial role in

genetic research

Genetic markers aid the research of populations, genetic relationships, and evolutionary trends (and much more)

forensic science

Genetic markers enable DNA profiling and analysis

medical genetics

Genetic markers help predict the likelihood of developing certain genetic disorders and can link an inherited disease with the responsible gene



Ask your questions to Plantastic Discoveries

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<u>t.ly/glLGr</u>



Zimmerman, S.J., Aldridge, C.L. & Oyler-McCance, S.J. An empirical comparison of population genetic analyses using microsatellite and SNP data for a species of conservation concern. BMC Genomics 21, 382 (2020). https://doi.org/10.1186/s12864-020-06783-9

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