Answer on Question #82928 – Biology – Genetics

Question

The genetic disease called cystic is inherited through a recessive gene. If both parents are heterozygous for this trait, what is the probability that they will have a child who suffers from this disease?

Solution

Suppose "A" is the dominant allele of this gene, and "a" is the recessive allele, that causes the disease in homozygous genotype. Both parents are heterozygous, so they both produce two types of gametes. In order to find child`s possible genotypes, draw the Punnett square:

×	A	a
A	AA	Aa
a	Aa	aa(disease)

So, the probability, that these parents will have a child with the disease is ¼, or 25%.

Answer: the probability is ¼, or 25%.