

27 A mutation occurred in this original DNA nucleotide sequence.

C T A G A A T C C T C T C C C

**After** the mutation occurred, the new DNA nucleotide sequence coded for the amino acids Asp, Leu, Gly and Glu.

The table shows the amino acids that are coded for by each DNA triplet.

		2nd base							
		A		G		T		C	
1st base	A	AAA	Phe	AGA	Ser	ATA	Tyr	ACA	Cys
		AAG	Phe	AGG	Ser	ATG	Tyr	ACG	Cys
		AAT	Leu	AGT	Ser	ATT	<i>Stop</i>	ACT	<i>Stop</i>
		AAC	Leu	AGC	Ser	ATC	<i>Stop</i>	ACC	Trp
	G	GAA	Leu	GGA	Pro	GTA	His	GCA	Arg
		GAG	Leu	GGG	Pro	GTG	His	GCG	Arg
		GAT	Leu	GGT	Pro	GTT	Gln	GCT	Arg
		GAC	Leu	GGC	Pro	GTC	Gln	GCC	Arg
	T	TAA	Ile	TGA	Thr	TTA	Asn	TCA	Ser
		TAG	Ile	TGG	Thr	TTG	Asn	TCG	Ser
		TAT	Ile	TGT	Thr	TTT	Lys	TCT	Arg
		TAC	Met	TGC	Thr	TTC	Lys	TCC	Arg
	C	CAA	Val	CGA	Ala	CTA	Asp	CCA	Gly
		CAG	Val	CGG	Ala	CTG	Asp	CCG	Gly
		CAT	Val	CGT	Ala	CTT	Glu	CCT	Gly
		CAC	Val	CGC	Ala	CTC	Glu	CCC	Gly

Which type of gene mutation occurred in the DNA nucleotide sequence?

- A deletion of one nucleotide
- B insertion of one nucleotide
- C insertion of two nucleotides
- D substitution of one nucleotide