

### The genetic code

first base	second base				third base
	T	C	A	G	
T	Phe	Ser	Tyr	Cys	T
T	Phe	Ser	Tyr	Cys	C
T	Leu	Ser	STOP	STOP	A
T	Leu	Ser	STOP	Trp	G
C	Leu	Pro	His	Arg	T
C	Leu	Pro	His	Arg	C
C	Leu	Pro	Gln	Arg	A
C	Leu	Pro	Gln	Arg	G
A	Ile	Thr	Asn	Ser	T
A	Ile	Thr	Asn	Ser	C
A	Ile	Thr	Lys	Arg	A
A	Met	Thr	Lys	Arg	G
G	Val	Ala	Asp	Gly	T
G	Val	Ala	Asp	Gly	C
G	Val	Ala	Glu	Gly	A
G	Val	Ala	Glu	Gly	G

Froguel and coworkers (1993) reported studies of the glucokinase gene in a number of families affected by MODY, and also in unaffected families. They published a list of 16 variants of the glucokinase gene. All their patients with MODY had an abnormality of the glucokinase gene:

<b>codon</b>	<b>nucleotide change</b>	<b>amino acid change</b>	<b>effect</b>
<b>4</b>	<b>GAC to AAC</b>	<b>?</b>	<b>none</b>
<b>10</b>	<b>GCC to GCT</b>	<b>?</b>	<b>none</b>
<b>70</b>	<b>GAA to AAA</b>	<b>?</b>	<b>MODY</b>
<b>98</b>	<b>CAG to TAG</b>	<b>?</b>	<b>MODY</b>
<b>116</b>	<b>ACC to ACT</b>	<b>?</b>	<b>none</b>
<b>175</b>	<b>GGA to AGA</b>	<b>?</b>	<b>MODY</b>
<b>182</b>	<b>GTG to ATG</b>	<b>?</b>	<b>MODY</b>
<b>186</b>	<b>CGA to TGA</b>	<b>?</b>	<b>MODY</b>
<b>203</b>	<b>GTG to GCG</b>	<b>?</b>	<b>MODY</b>
<b>228</b>	<b>ACG to ATG</b>	<b>?</b>	<b>MODY</b>
<b>261</b>	<b>GGG to AGG</b>	<b>?</b>	<b>MODY</b>
<b>279</b>	<b>GAG to TAG</b>	<b>?</b>	<b>MODY</b>
<b>300</b>	<b>GAG to AAG</b>	<b>?</b>	<b>MODY</b>
<b>300</b>	<b>GAG to CAG</b>	<b>?</b>	<b>MODY</b>
<b>309</b>	<b>CTC to CCC</b>	<b>?</b>	<b>MODY</b>
<b>414</b>	<b>AAG to GAG</b>	<b>?</b>	<b>MODY</b>