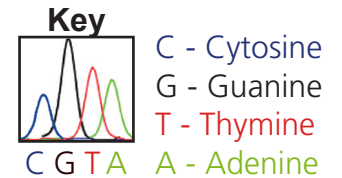
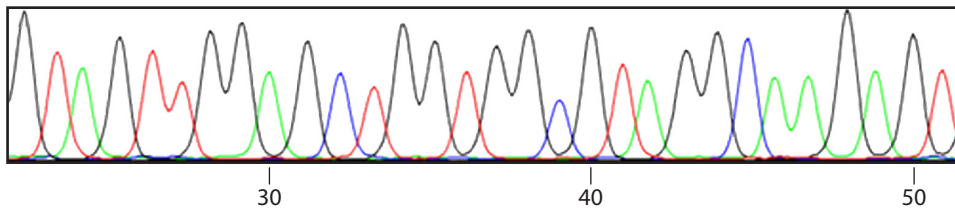


Can you spot a cancer mutation?

Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.

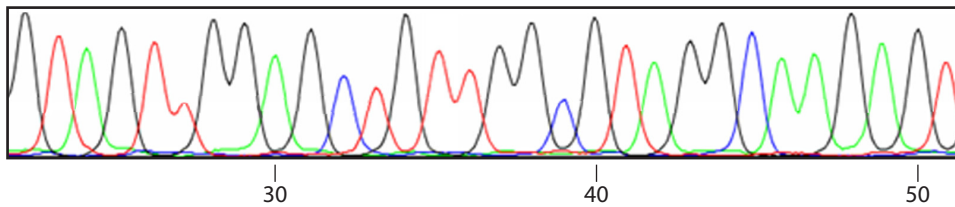


Healthy cell DNA



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

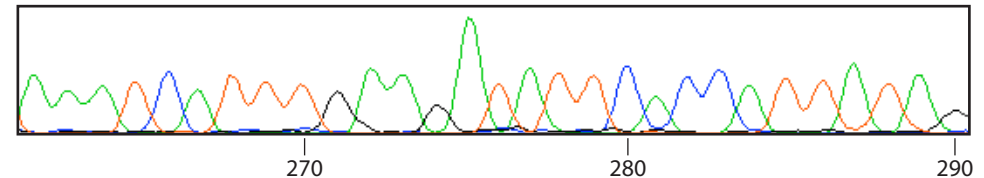
Tumour cell DNA



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

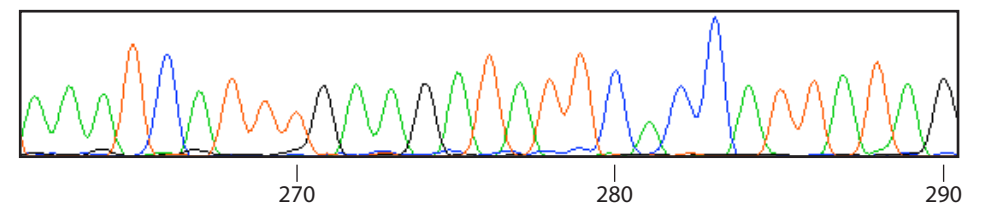
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



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

Tumour cell DNA

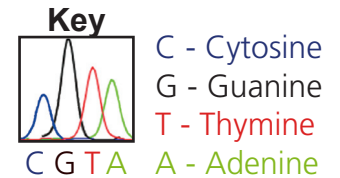


A A A T C A T T T G A A G A T A T T C A C C A T T A T A G

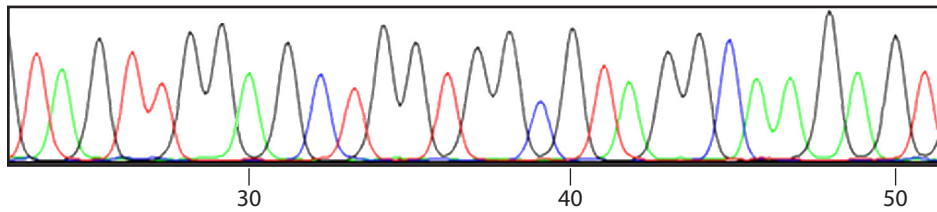
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.

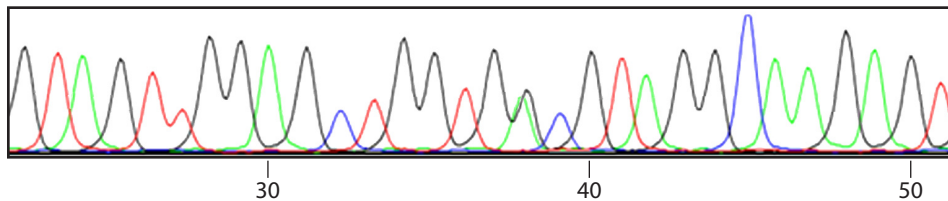


Healthy cell DNA



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

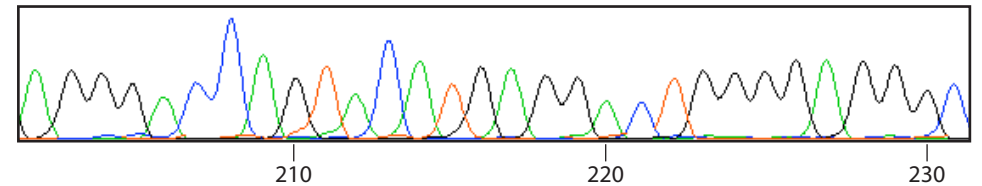
Tumour cell DNA



G T A G T T G G A G C T G G T G ^G/_A C G T A G G C A A G A G T

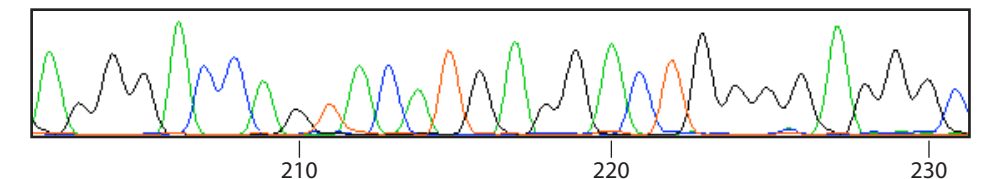
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



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

Tumour cell DNA

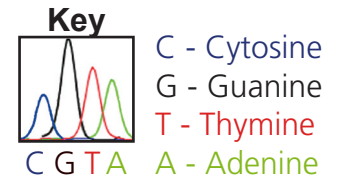


A G G G A C C A G T A C A T G A G G A C T G G G G A G G G C

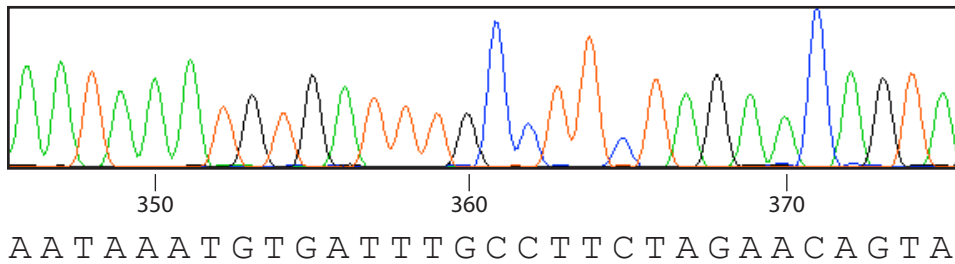
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

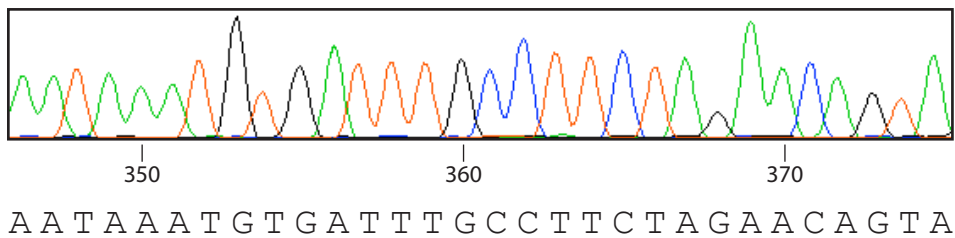
Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.



Healthy cell DNA

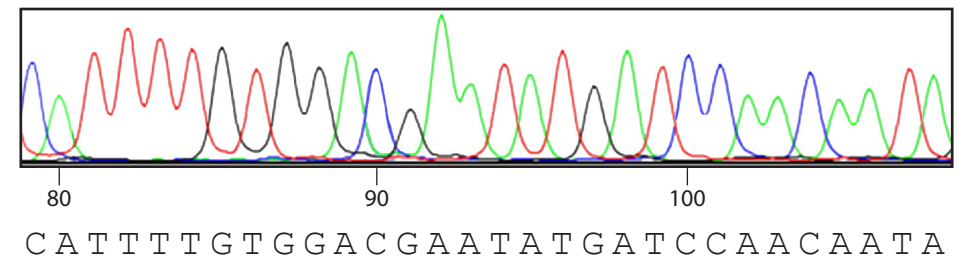


Tumour cell DNA

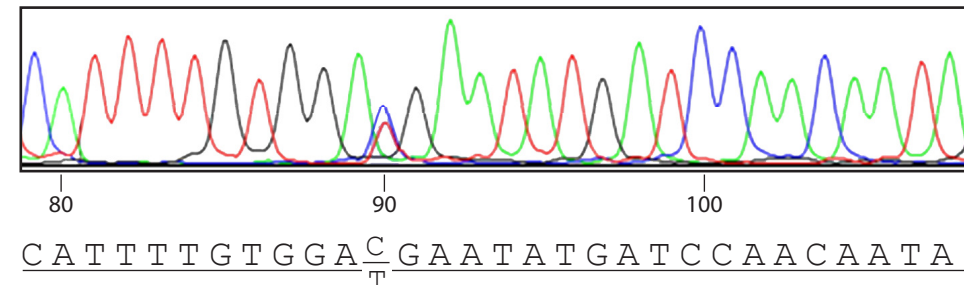


Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



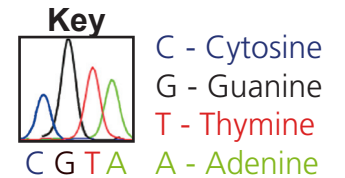
Tumour cell DNA



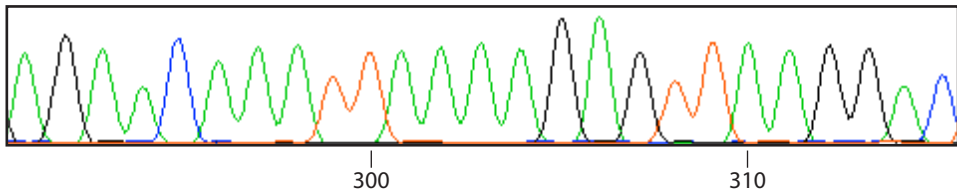
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.

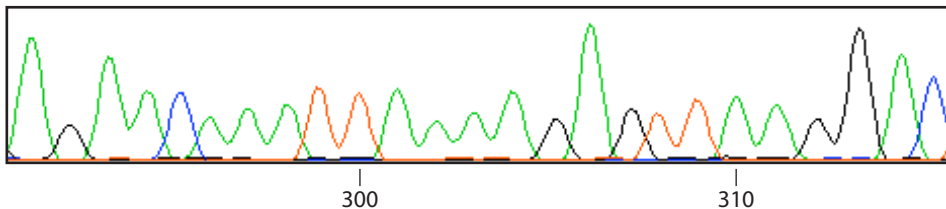


Healthy cell DNA



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

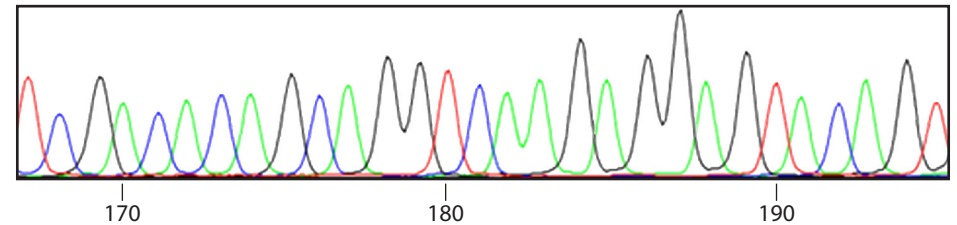
Tumour cell DNA



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

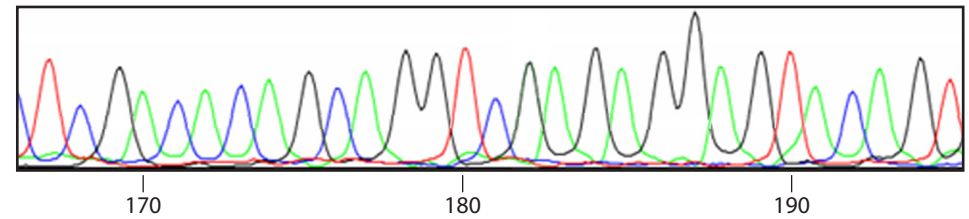
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



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

Tumour cell DNA

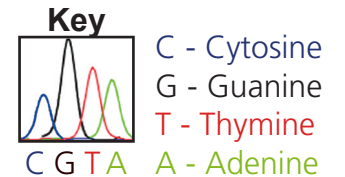


T C G A C A C A G C A G G T C G A G A G G A G T A C A G T

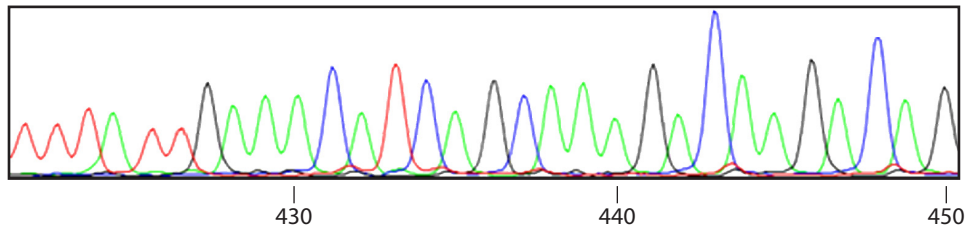
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.

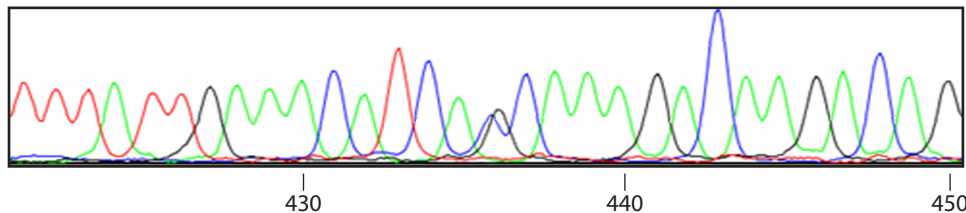


Healthy cell DNA



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

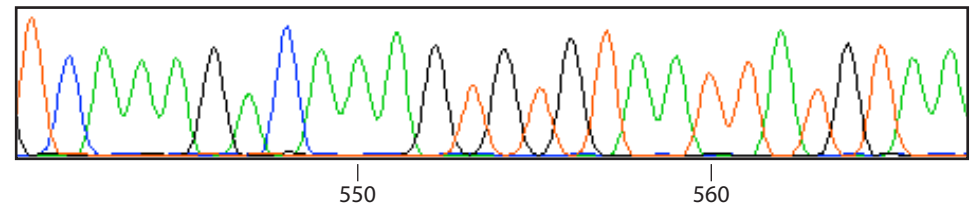
Tumour cell DNA



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

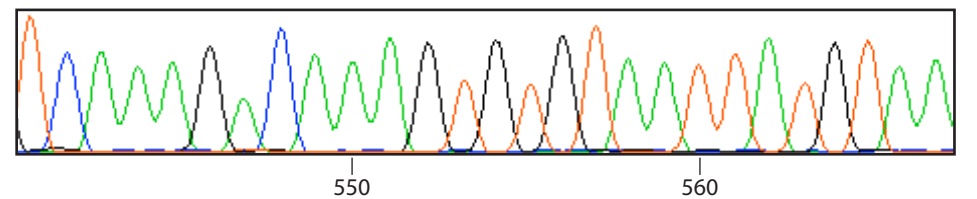
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



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

Tumour cell DNA

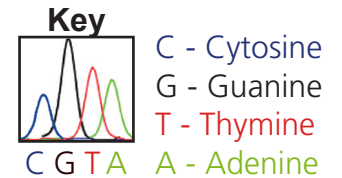


T C A A A G A C A A A G T G T G T A A T T A T G T A A

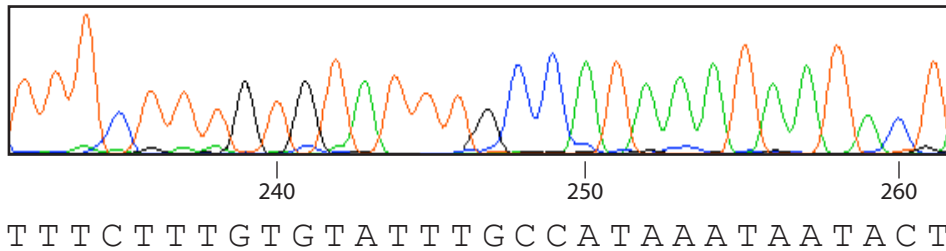
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

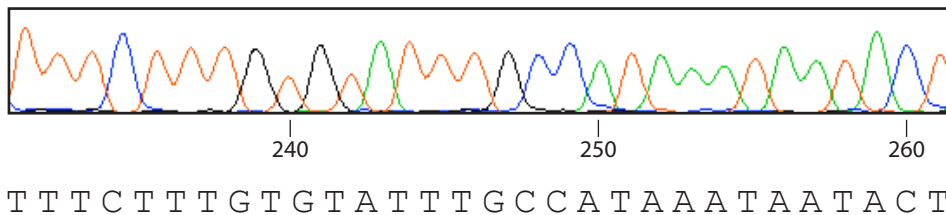
Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.



Healthy cell DNA

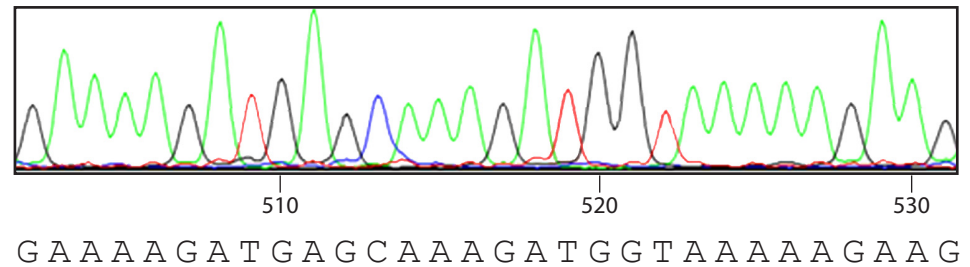


Tumour cell DNA

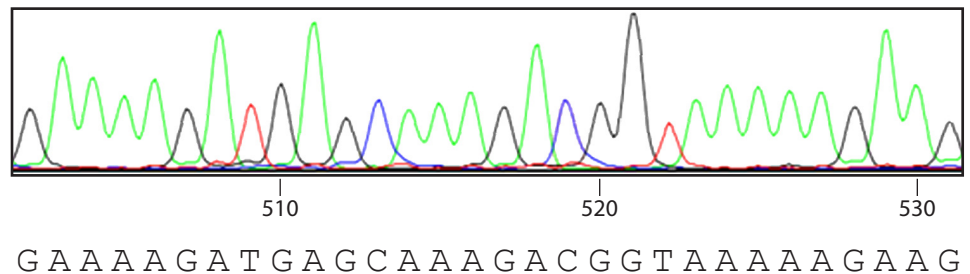


Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



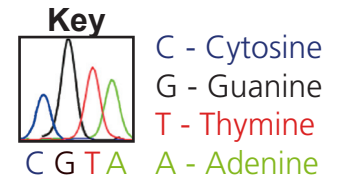
Tumour cell DNA



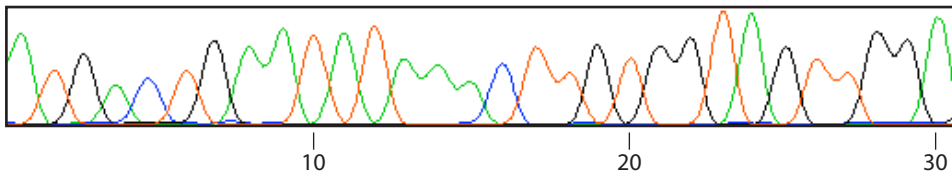
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.

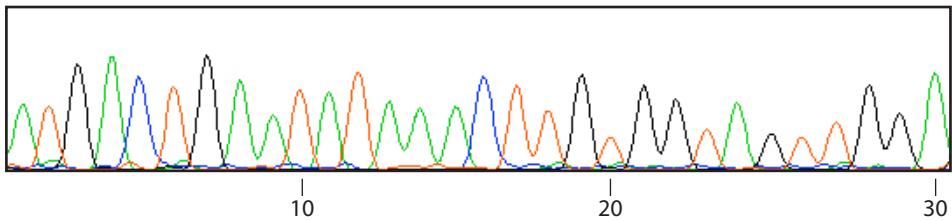


Healthy cell DNA



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

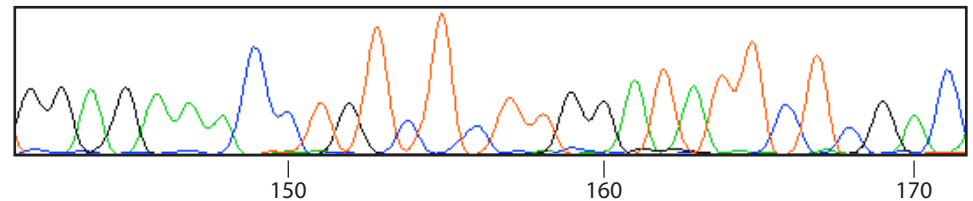
Tumour cell DNA



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

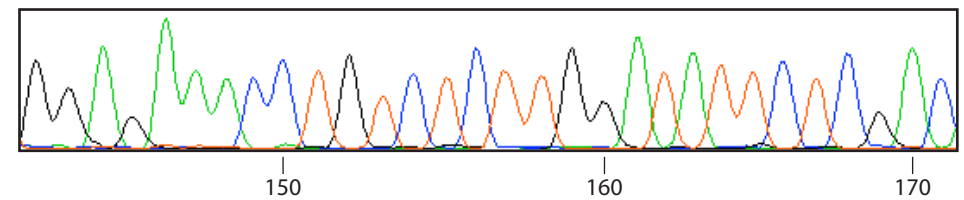
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



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

Tumour cell DNA

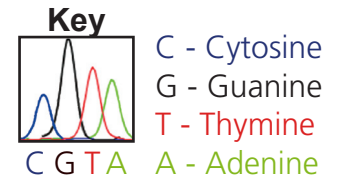


G G A G A A A C C T G T C T C T T G G A T A T T C T C G A C

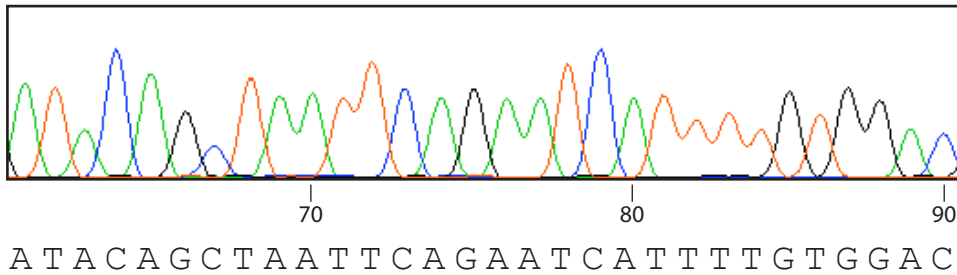
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

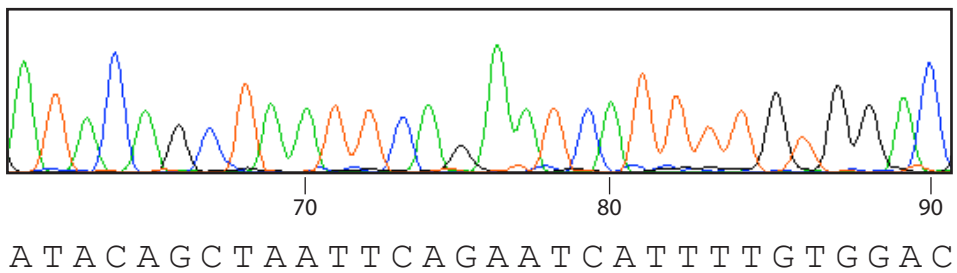
Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.



Healthy cell DNA

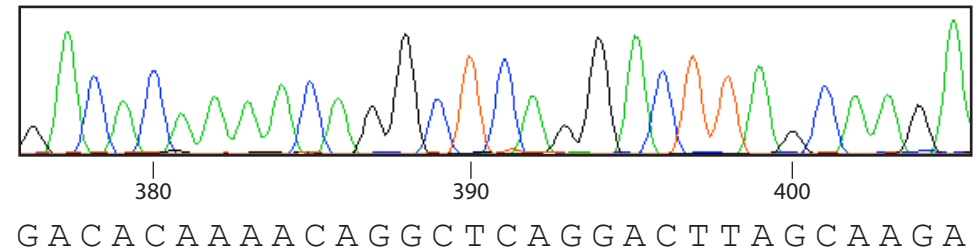


Tumour cell DNA

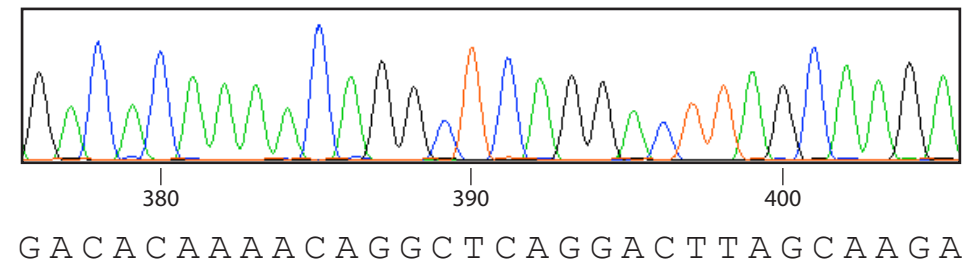


Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



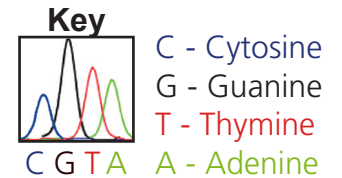
Tumour cell DNA



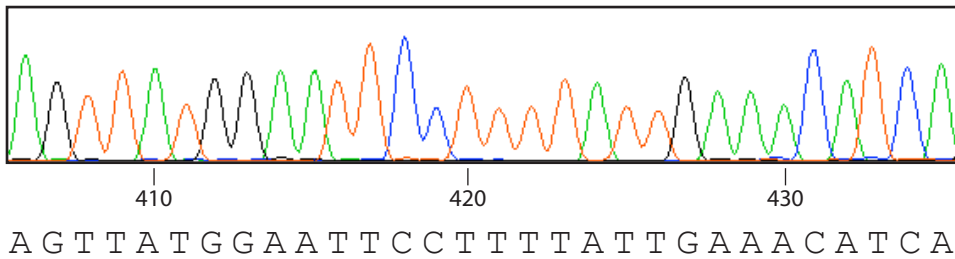
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

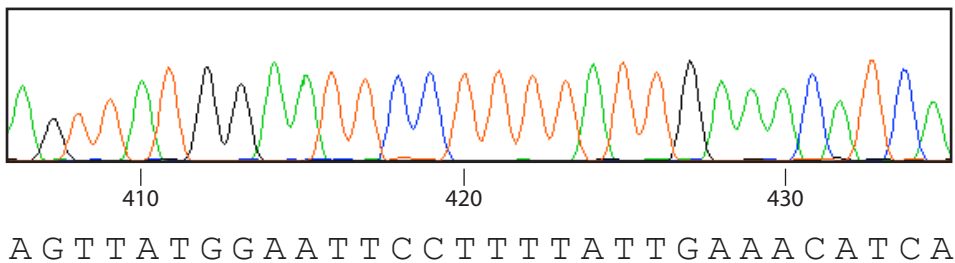
Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.



Healthy cell DNA

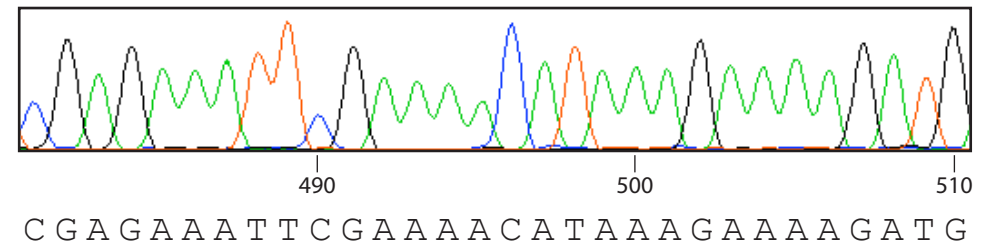


Tumour cell DNA

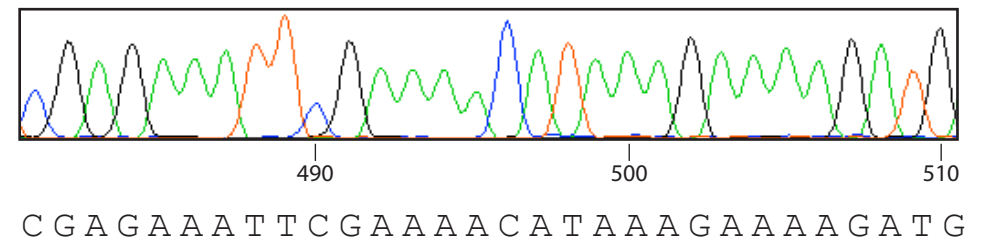


Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



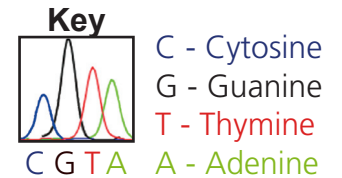
Tumour cell DNA



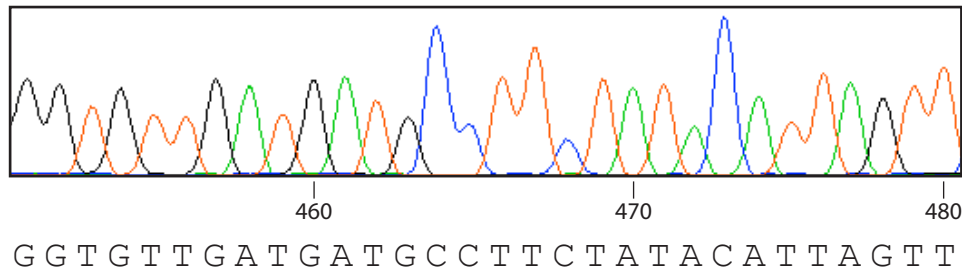
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

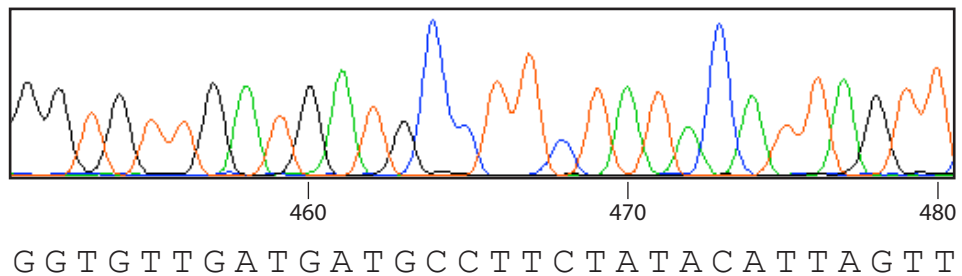
Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.



Healthy cell DNA

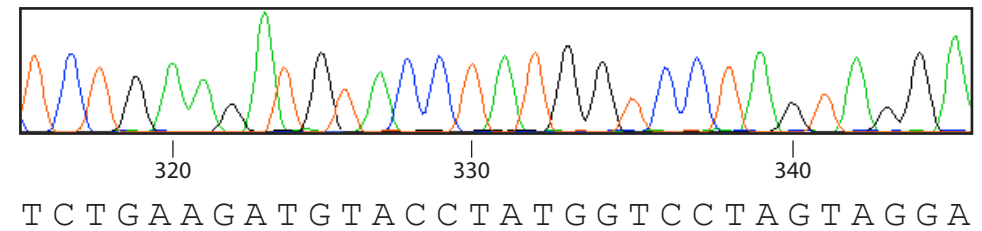


Tumour cell DNA

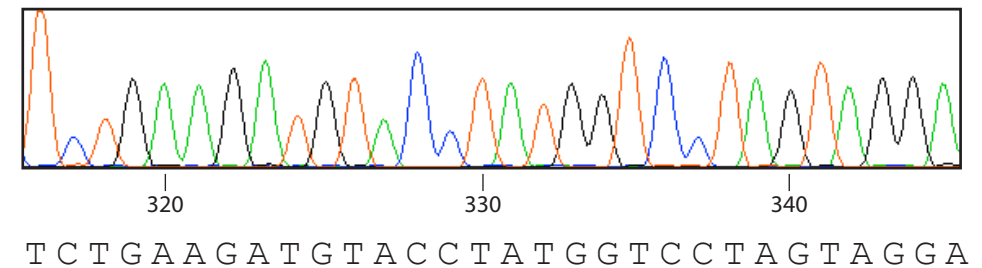


Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



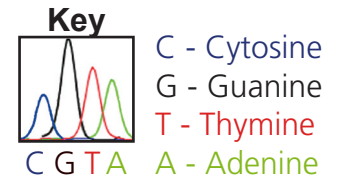
Tumour cell DNA



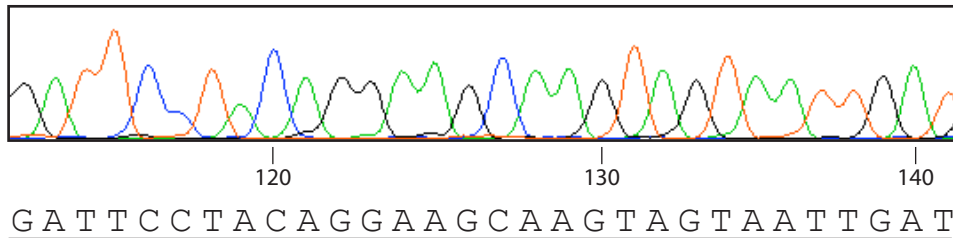
Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Can you spot a cancer mutation?

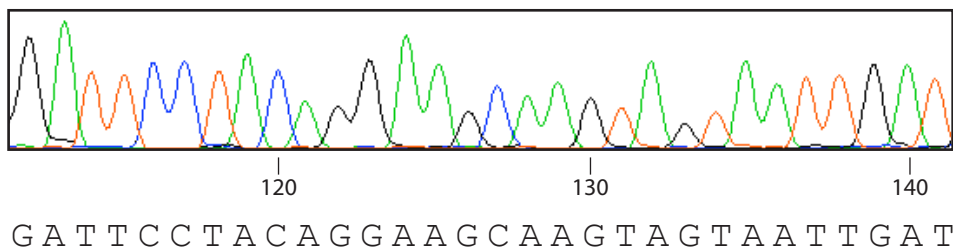
Below are traces of sequenced DNA displaying different regions of the *KRAS* gene. DNA sequence from a healthy cell is shown above that of a tumour cell. Using the key provided, write out the DNA sequence for each trace. Compare the healthy and tumour sequences. If you find a difference, circle the letter(s) that have changed in the sequence and then complete the table below using the banner or gene sheet and the codon wheel provided.



Healthy cell DNA

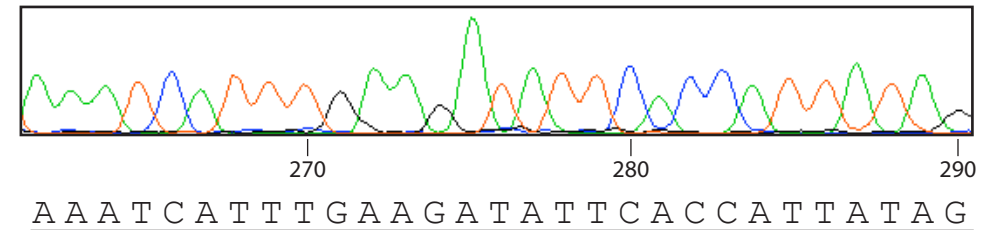


Tumour cell DNA

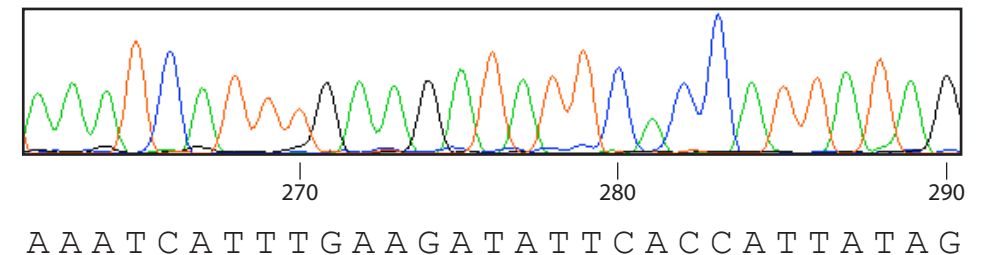


Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid

Healthy cell DNA



Tumour cell DNA



Amino Acid Number	Healthy DNA Sequence	Tumour DNA Sequence	Healthy Amino acid	Tumour Amino Acid