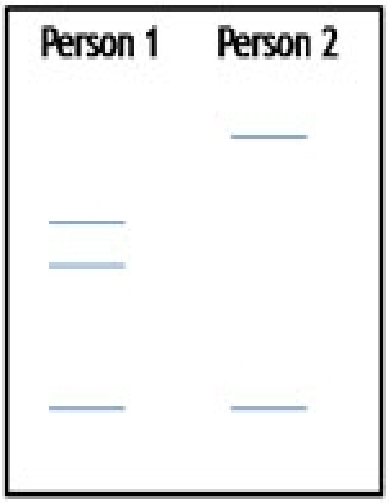
⇩ ⇩ ⇩

5' .....GAATTCAGTGACCTTACTTGAATTCAAGGTCAGAATTC 3' Person 1

⇩ ⇩

5'.....GAATTCAGTGACCTTACTTCAATTCAAGGTCAGAATTC 3' Person 2

In Person 2 the DNA sequence has been changed in just one place, from a G to a C. If we are cutting this DNA with the restriction enzyme EcoR 1, the enzyme will look for the sequence GAATTC and cut the DNA between the G and A (arrows). If it doesn't find this exact sequence it will not cut the DNA. So, in the case of person 2 there will be one less cut site than in person 1. The gel for this situation will look like this: