

Restriction Enzyme Puzzler: Plasmid Mapping

You have cloned an important gene fragment into a unique EcoRI site of a 3 kb plasmid vector.

This vector also contains a HindIII site very near the EcoRI site you have used.

You digest your recombinant plasmid with EcoRI, HindIII, and both enzymes together (3 separate reactions in 3 separate test tubes).

After electrophoresis of the products, you obtain the following gel image at right.

1. What is the total size of the plasmid?
2. Draw a map of the plasmid. Indicate the location of restriction sites and the distances (Kb) between them.

