21. The autoradiogram below shows the genomic DNA fragments produced by digesting genomic DNA with the restriction enzyme *Mst* II and probing the membrane with a DNA probe specific for the beta globin chain gene of hemoglobin. The parents are C and D, and the children are E and F. Hb S indicates a mutated gene leading to the sickle cell condition. Hb A indicates normal hemoglobin.

C D E F

Hb S Hb A

(a) Does child F have sickle cell anemia?

(b) Why does child E have only one band showing on the gel?