ABSTRACT The DNA fragments containing the rrl and rrf genes were subcloned from a EMBL3 recombinant phage of Borrelia burgdorferi strain B31 into pUC18 and were characterized by restriction map of the fragments was constructed and the organization of the genes was determined. The genomic hybridization using the gene probes from B. burgdorferi showed that there are two sets of rrl/rrf genes in that genome. The results also revealed the important fact that the gene sets are repeated directly by 3.2-kb long. This is the first report of this remarkable feature in the organization of the eubacterial rRNA genes.