

This process involved the transfer of DNA through a direct link between the bacterial cells. In some cases, however, the F plasmid could integrate into the bacterial chromosome, and conjugation could result in the transfer of chromosomal genes. In most cases, the act of conjugation involved transfer of the plasmid alone, which became established in the recipient cell thereby converting it from an F⁻ to an F⁺ phenotype. The ability of the cells to construct the pilus and pass DNA through it was encoded on a large plasmid known as the F (for fertility) factor. In *E. coli* this conduit between cells took the form of a proteinaceous tube known as a pilus.