

スピロヘータの代謝，細胞生物学における遺伝学的研究

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Genetic approaches to cell biology and metabolism of Spirochetes.

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ABSTRACT Genetic analysis and methodology have only comparatively recently been applied to study of spirochetes. Although genetic transfer procedures are not widely available, there are several examples of progress in genetic analysis of spirochetes by other approaches. Some examples of these approaches are the following.

1) Genes for synthetic pathways in *Treponema* and *Leptospira* have been cloned by complementation of *Escherichia coli* serving as plasmid hosts.

2) The OspA protein of *Borrelia burgdorferi* has been overexpressed in *E.coli* without the signal peptide; the recombinant product has been suitable for circular dichroism as well as other biochemical analyses.

3) The heat shock proteins of *B.burgdorferi* are homologous to heat shock proteins of *E.coli*.

4) Enzyme activity profiles of *B.burgdorferi* and other spirochetes show strain heterogeneity and also indicate which biosynthetic and enzymatic activities are conserved within different spirochetes.

5) The gene organization of rRNA genes have revealed differences between spirochetes and other types of bacteria.

抄録 スピロヘータの分子生物学研究者がそれぞれの分野について最近の研究結果を

報告した。

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