

We investigated suppression of the slow growth of an *Escherichia coli ispA* null mutant lacking farnesyl diphosphate (FPP) synthase (i.e. IspA) by plasmids carrying prenyl diphosphate synthase genes. The growth rates of *ispA* mutant-transformants harboring a medium-copy number plasmid that carries *ispA* or *ispB* were almost the same as that of the wild-type strain. Although the level of FPP in the transformant with the *ispA* plasmid was almost the same as that in the wild-type strain, the level in the transformant with the *ispB* plasmid was as low as that in the *ispA* mutant. Purified octaprenyl diphosphate synthase (IspB) could condense isopentenyl diphosphate (IPP) with dimethylallyl diphosphate (DMAPP) to form octaprenyl diphosphate and nonaprenyl diphosphate. It is possible that suppression of the slow growth of the *ispA* mutant by *ispB* was due to condensation of IPP not only with FPP but also with DMAPP by octaprenyl diphosphate synthase.

Overexpression of *ispB* encoding octaprenyl diphosphate synthase suppressed the phenotype of *E. coli* null mutant *ispA* encoding farnesyl diphosphate synthase.