

ABSTRACT

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Title of diploma thesis: Genetic apparatus of biologically active compounds producers in soil bacterial communities

The thesis aims in selecting one possible marker indicating the presence of antibiotic biosynthetic pathways in studied strains. My specific task was to identify and describe certain genes in a collection of actinomycete strains isolated from different soils. As the most suitable were chosen genes homologous to gene *lmrC* originating from biosynthetic pathway of a lincosamid antibiotic lincomycin because of their relatively high incidence in antibiotic gene clusters. The employed methods were polymerase chain reaction, electrophoresis, restriction fragment length polymorphism and Southern blot. The results are presented as a collection of strains carrying *lmrC* gene homologues. The context in which each of the identified genes occurs in the respective genome was estimated by comparison with known sequences of the respective genes using a phylogram.