

Publication

Bacillus subtilis phage SPR codes for a DNA methyltransferase with triple sequence specificity

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SPR, a temperate Bacillus subtilis phage, codes for a DNA methyltransferase that can methylate the sequences GGCC (or GGCC) and CCGG at the cytosines indicated. We show here that it can also methylate the sequence CC(A/T)GG and protect it from cleavage with EcoRII and ApyI. This methylation can be seen in vivo as well as in vitro with purified SPR methyltransferase. SPR19 and SPR83 are two mutant phages, defective in GGCC or CCGG methylation, respectively. These mutants have not lost their ability to methylate CC(A/T)GG sites. Mutation SPR26 has lost the ability to methylate all three sites. Thus the SPR methyltransferase codes for three genetically distinguishable methylation abilities.

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