

Type II thioesterase ScoT, associated with *Streptomyces coelicolor* A3(2) modular polyketide synthase Cpk, hydrolyzes acyl residues and has a preference for propionate.

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Rok wydania

2009

Czasopismo

Applied and Environmental
Microbiology

Numer woluminu

75

Strony

887-896

DOI

10.1128/AEM.01371-08

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

Type II thioesterases (TE IIs) were shown to maintain the efficiency of polyketide synthases (PKSs) by removing acyl residues blocking extension modules. However, the substrate specificity and kinetic parameters of these enzymes differ, which may have significant consequences when they are included in engineered hybrid systems for the production of novel compounds. Here we show that thioesterase ScoT associated with polyketide synthase Cpk from *Streptomyces coelicolor* A3(2) is able to hydrolyze acetyl, propionyl, and butyryl residues, which is consistent with its editing function. This enzyme clearly prefers propionate, in contrast to the TE IIs tested previously, and this indicates that it may have a role in control of the starter unit. We also determined activities of ScoT mutants and concluded that this enzyme is an esterase with Ser90 and His224 in its active site.

Adres publiczny

<https://doi.org/10.1128/AEM.01371-08>

Strona internetowa wydawcy

<https://asm.org/>