Crystallization and X-ray crystallographic analysis of recombinant TylP, a putative γ-butyrolactone receptor protein from Streptomyces fradiae

ABSTRACT

TylP is one of five regulatory proteins involved in the regulation of antibiotic (tylosin) production, morphological and physiological differentiation in Streptomyces fradiae. Its function is similar to those of various γ-butyrolactone receptor proteins. In this report, N-terminally His-tagged recombinant TylP protein (rTylP) was overproduced in Escherichia coli and purified to homogeneity. The rTylP protein was crystallized from a reservoir solution comprising 34%(v/v) ethylene glycol and 5%(v/v) glycerol. The protein crystals diffracted X-rays to 3.05 Å resolution and belonged to the trigonal space group P3121, with unit-cell parameters a = b = 126.62 Å, c = 95.63 Å.

Keyword: Streptomyces fradiae; Recombinant TylP protein; γ-butyrolactone; GBL; Transcription factors; Tylosin