

Crystallization and preliminary crystallographic studies of the hypothetical protein BPSL 1038 from Burkholderia pseudomallei

Abstract

Melioidosis is an infectious disease caused by the pathogenic bacterium *Burkholderia pseudomallei*. Whole-genome sequencing revealed that the *B. pseudomallei* genome includes 5855 coding DNA sequences (CDSs), of which ~25% encode hypothetical proteins. A pathogen-associated hypothetical protein, BPSL1038, was overexpressed in *Escherichia coli*, purified and crystallized using vapour-diffusion methods. A BPSL1038 protein crystal that grew using sodium formate as precipitant diffracted to 1.55 Å resolution. It belonged to space group C2221, with unit-cell parameters $a = 85.36$, $b = 115.63$, $c = 46.73$ Å. The calculated Matthews coefficient (VM) suggests that there are two molecules per asymmetric unit, with a solvent content of 48.8%.

Keyword: *Burkholderia pseudomallei*; BPSL1038; Hypothetical protein