Expression, purification and crystallization of LMW-PBP 4 and 5 from Haemophilus influenzae

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The gene encoding penicillin binding protein 4 and 5 of Haemophilus influenzae were cloned into the high-expression plasmid pET28 and overexpressed in Escherichia coli BL21 (DE3) star / pLysS respectively. Each proteins were purified more than 95% and initial crystals were obtained by sitting-drop vapour-diffusion method at 293 K in a lot of conditions. After optimization of each conditions, the single crystals were grown at 293 K, 1 week for data collection. The HiPBP4 crystals belonged to space group P21, with unit-cell parameters a = 64.55 Å, b = 92.59 Å, c = 104.88 Å and β = 107.75°, and the HiPBP5 crystals belonged to space group P212121, with unit-cell parameters a = 41.13 Å, b = 53.01 Å, c = 201.79 Å. These crystals complete data set were collected at Photon factory.

Keywords: penicillin binding protein, Haemophilus influenzae, PBP4 PBP5

The proteome of M. tuberculosis in 3D: Towards structure based drug discovery

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The availability of the molecular structures of the proteome from M. tuberculosis serves as an essential tool to advance the understanding of the biological processes during the different stages of its life cycle within the human host. During the last five years, the molecular structures of about 200 unique targets from M. tuberculosis have been determined, comprising about 5% of its entire proteome. The majority of them have been provided by structural genomics consortia from around the world. As an example, we present the approach and some of the key achievements of the recent X-MTB consortium based in Germany (1). The targets have been selected within the human host. During the last five years, the molecular of the biological processes during the different stages of its life cycle based in Germany (1). The targets have been selected.

Keywords: drug design, glycosyl hydrolase, molecular