Abstract

Gastric ulcers and cancer is a prevailing problem, mostly in the developing nations. One of the major risk factors includes pathogens like *Helicobacter pylori*. It is a helix-shaped, micro-aerophilic gram negative bacterium which is mainly present in the upper gastrointestinal tract. The ability of *H. pylori* to survive in acidic environment of the stomach gives it an additional survival benefit. The resistance towards the existing antibiotics makes its treatment challenging. Therefore, it is crucial to find therapeutic measures to control its proliferation. IMPDH (Inosine 5' Monophosphate dehydrogenase) enzyme, could be considered as a promising target due to two major reason: it is involved in one of the major biochemical reactions - synthesis of guanine nucleotide (specifically conversion of IMP to XMP), and because of the structural differences in both prokaryotic and eukaryotic IMPDH, therefore not affecting the human host cells. The work carried out focuses on cloning, expression of purification *Hp*IMPDH enzyme in pmalC5X expression vector having MBP tag so that the molecular weight is approximately 100kDa. This expressed fusion protein can be used for characterisation of the structure using cryo-EM technique.