# Purification, crystallization and X-ray preliminary analysis of zebrafish Cystatin B

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Cystatin inhibitory activity is vital for regulating the normal physiological processes by restricting the potentially highly destructive activity of their target proteases such as the papain (C1) family, including cysteine cathepsins, and legumain (C13) families. Failures in biological mechanisms controlling protease activities cause in many diseases such as neurodegeneration, osteoporosis, cardiovascular diseases, arthritis, and cancer. Cysteine cathepsins participate in numerous physiological and pathological processes including antigen processing, bone remodelling, neurodegeneration, cardiovascular diseases and cancer. The potentially destructive activity of cysteine proteases can be regulated by their endogenous protein inhibitors. Cystatins are classified into three types: type I, stefin without signal peptides (cystatins A and B); type II cystatins (C, D, E, F, S, SN, SA) and type III cystatins (kininogens). Cystatin B (CSTB) has been overexpressed, purified and crystallized using the hanging-drop vapour-diffusion method at 18 °C. The X-ray diffraction data set of CSTB crystal was collected at 2.5 Å resolution, and the crystal belonged to space group C2, with unit-cell parameters a = 145.62, b = 81.15, c = 84.95 Å, β = 124.85°. Preliminary analysis indicates the presence of eight CSTB molecules in the asymmetric unit with a solvent content of 49.35%.