

W0646

Crystal Structure of Hypothetical Protein TM1727 of *Thermotoga maritima*. Mahendra Madegowda, Subramaniam Eswaramoorthy, Jayaraman Seetharaman, Subramanyam Swaminathan, Biology Dept., Brookhaven National Laboratory, Upton, NY 11973.

The hypothetical protein TM1727 of *Thermotoga maritima* (T1650 of NYSGRC) belongs to a large family of proteins, with homologues in bacteria, archaea, and eukaryotes. The amino acid sequence of T1650 does not share any recognizable homology with proteins of known functions or structures. To correlate the biological function, we have determined its crystal structure at 2.6 Å using Se-MAD phasing. The structure reveals the presence of two domains, one larger and one smaller and the dimer interface occur through the smaller domain which is made of helical bundles. A residual density near the GTGTLT sequence motif at the N-terminal $\alpha\beta$ domain may be explained as due to the co-factor. The detailed structure-function and characterization are underway and will be presented.

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