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The Joint Center for Structural Genomics: A Multi-tiered approach to Structural Genomics. Ian A. Wilson, Joint Center for Structural Genomics (JCSG), La Jolla, CA 92037 USA.

The JCSG (www.jcsg.org) has developed an integrated high throughput (HT) production pipeline for all steps from target selection, cloning, expression, crystallization to structure determination, and applied it to *Thermotoga maritima* (TM), as well as other bacterial and eukaryotic targets. We have determined over 150 structures of the predicted 1877 ORFS which, with other PDB TM structures, gives direct structural coverage of 32% of the expressed soluble proteins and ~12% of the proteome. After homology modeling and fold recognition, this represents one of the highest structural coverages (72%) of any organism. As a result of such HT studies, we have tested and validated strategies to improve yield and lower cost per structure through implementation of a three-tiered approach that includes a number of diverse salvage pathways. Many of these advances in technologies and methodologies can now be implemented on a smaller scale in individual structural biology labs. The JCSG is located at The Scripps Research Institute, Genomic Institute of the Novartis Research Foundation, U.C. San Diego, Burnham Institute, and the Stanford Synchrotron Radiation Laboratory/Stanford University. JCSG is supported through the NIH Protein Structure Initiative (U54 GM074898), (www.nigms.nih.gov/funding/psi.html).