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**Crystal structure of yeast Ypr118w, a methylthioribose-1-phosphate isomerase related to regulatory eIF2B subunits.** Mario Bumann<sup>1,2</sup>, Siamak Djafarzadeh<sup>2</sup>, Anselm Erich Oberholzer<sup>1</sup>, Peter Bigler<sup>1</sup>, Michael Altmann<sup>2</sup>, Hans Trachsel<sup>2</sup> & Ulrich Baumann<sup>1</sup> <sup>1</sup>Department of Chemistry and Biochemistry, University of Berne, Freiestrasse 3, CH-3012 Switzerland <sup>2</sup>Institute for Molecular Biology and Biochemistry, University of Berne Bülhlstrasse 28, CH-3012 Switzerland.

Ypr118w is a non-essential, low-copy number gene product from *Saccharomyces cerevisiae*. It belongs to the PFAM family PF01008, which contains the  $\alpha$ -,  $\beta$ -, and  $\delta$ -subunits of eukaryotic translation initiation factor eIF2B, as well as proteins of unknown function from all three kingdoms. One of those latter proteins from *Bacillus subtilis* has been characterized as a 5-methylthioribose-1-phosphate isomerase, an enzyme of the methionine salvage pathway. We report the crystal structure of Ypr118w which reveals a dimeric protein with two domains and a putative active site cleft. In vivo, Ypr118w protein is required for yeast cells to grow on methylthioadenosine in the absence of methionine showing that Ypr118w is involved in the methionine salvage pathway. The crystal structure of Ypr118w reveals for the first time the fold of a PF01008 member and allows a deeper discussion of an enzyme of the methionine salvage pathway, which has in the past attracted interest due to tumor suppression and as target of antiprotozoal drugs.