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**Crystal Structure of the Unliganded form of the Recombination Mediator Protein uvsY**

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**Introduction:** uvsY is the prototypical member of a family of proteins that prepare single-stranded DNA for recombination by dislodging gp32 and recruiting the recombinase uvsX [1]. The structural mechanism by which this is accomplished remains to be determined. We have prepared crystals of both the DNA-bound and unliganded forms of uvsY [2]. The unliganded form diffracts to 3Å but has a large unit cell (I422: a=b=78Å, c=794Å.)

**Methods and Materials:** Multiwavelength anomalous dispersion data were collected from selenomethionine-substituted crystals of uvsY protein [3]. Partial MAD data were also collected for a wildtype crystal quick-dipped in sodium bromide [4.] Low energy remote wavelength data were collected at the home source.

**Results:** MAD analysis of the data are in progress.

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References:

[1] Morrical, S. W., Alberts, B. M. (1990) The UvsY protein of bacteriophage T4 modulates recombination-dependent DNA synthesis in vitro, *J Biol Chem* 265, 15096.

[2] Beernink, H. T., Morrical, S. W. (1998) The uvsY recombination protein of bacteriophage T4 forms hexamers in the presence and absence of single-stranded DNA, *Biochemistry* 37, 5673.

[3] Doublet, S. (1997) Preparation of selenomethionyl proteins for phase determination, *Meth Enz* 276,523.

[4] Dauter, Z., Dauter, M. Rajashankar, K. R. (2000) Novel approach to phasing proteins: derivatization by short cryo- soaking with halides, *Acta Cryst D*56, 232.