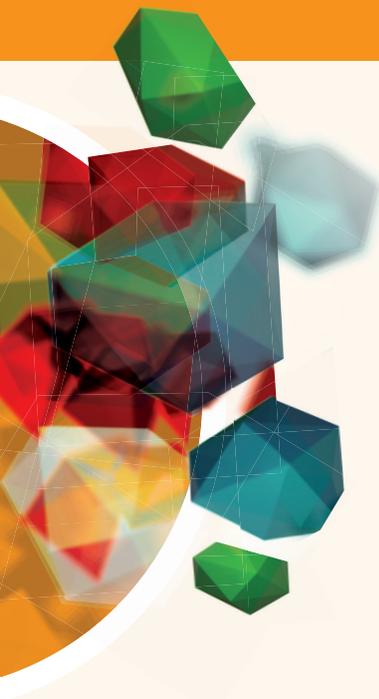


# XP Screen

## The Protein Crystal Glue



The **XP Screen** is a protein crystallization screen with the addition of the Anderson-Evans polyoxotungstate  $[\text{TeW}_6\text{O}_{24}]^{6-}$  (TEW) as universal additive. XP Screen consists of 96 of the most prominent crystallization conditions from JBScreen Basic that were optimized for and complemented with 1 mM TEW as “glue” for protein molecules.

TEW is a universal and flexible additive for protein crystallization. With its planar structure and a central tellurium atom, it is able to stabilize flexible regions in proteins and provides an anomalous signal for phasing.

Hence, the XP Screen promotes protein crystallization even for most challenging targets and improves diffraction quality of protein crystals<sup>[1]</sup>.

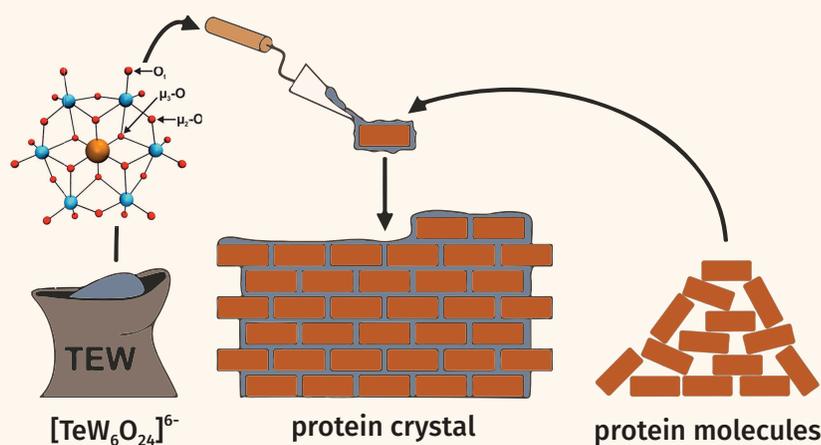


Figure adapted from [1], used courtesy of Prof. Annette Rompel, University of Vienna, Austria

| Product                         | Cat.-No. | Amount                     |
|---------------------------------|----------|----------------------------|
| XP Screen                       | CS-350   | 96 solutions (1.7 ml each) |
| Anderson-Evans polyoxotungstate | X-TEW-1  | 1 g                        |

### TEW was shown to:

- both covalently bind and structurally adapt to fit into protein molecules (*cgAUS1*, PDB code: 4Z12, 4Z13)<sup>[2]</sup>
- act as a linker in various orientations and thereby create either smaller (*abPPO4*, PDB code: 4OUA) or larger (lysozyme, PDB code: 4PHI) protein-protein distances<sup>[3,4]</sup>
- induce heterogeneous crystallization of two different protein forms in one single crystal (*abPPO4*, PDB code: 4OUA)<sup>[4]</sup>

### References:

- [1] Bijelic *et al.* (2017) Ten Good Reasons for the Use of the Tellurium-Centered Anderson-Evans Polyoxotungstate in Protein Crystallography. *Acc. Chem. Res.* **50**:1441.  
[2] Molitor *et al.* (2016) *In situ* formation of the first proteinogenically functionalized  $[\text{TeW}_6\text{O}_{24}(\text{Glu})]^{6-}$  structure reveals unprecedented chemical and geometrical features of the Anderson-type cluster. *Chem. Commun.* **52**:12286.  
[3] Bijelic *et al.* (2015) Hen Egg-White Lysozyme Crystallisation: Protein Stacking and Structure Stability Enhanced by a Tellurium(VI)-Centred Polyoxotungstate. *ChemBioChem* **16**:233.  
[4] Mauracher *et al.* (2014) Latent and active *abPPO4* mushroom tyrosinase cocrystallized with hexatungstotellurate(VI) in a single crystal. *Acta Cryst. D* **70**:2301.

