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New Crystal Form of the Engrailed Homeodomain Q50K Variant

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Beamline: X12C

Introduction: As the first step in designing a new class of pharmaceuticals targeting the DNA-binding surface of DNA-binding proteins, we have obtained a new tetragonal crystal form of the *engrailed* homeodomain. Homeodomains play key roles in organismic development and in the progression of various cancers.

Methods and Materials: Large single crystals of an altered-specificity variant of the *engrailed* homeodomain were grown by vapor diffusion methods. Cryogenically-protected specimens were brought to beamline X12C for collection of a high-resolution native diffraction dataset.

Results: The new crystals showed diffraction beyond 1.35Å; we collected a complete dataset to 1.4Å. Molecular replacement and refinement have given a high quality molecular model of the *engrailed* homeodomain suitable for subsequent ligand design.

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