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1.55 Å Crystal Structure of Putative Z-DNA Binding Protein AF2008 from *Archaeoglobus fulgidus*.
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Z-DNA is a left-handed DNA occurring during DNA transcription behind a moving RNA polymerase. Biological significance of that DNA form is unclear, however, there are known proteins interacting with Z-DNA. We show the structure of archaeal AF2008 protein which is a putative Z-DNA binding protein. The structure comprises of a dimer with a 'winged' helix-turn-helix motif in each of monomers. AF2008 helix-turn-helix motifs strictly resemble Z-DNA binding domains of known protein structures. The distance between DNA binding domains in the dimer, 43 - 45 Å, is similar to ideal pitch height of Z-DNA equal to 45 Å. We propose a model of AF2008 protein binding to Z-DNA by two binding domains at the same time which is also in a good agreement with electrostatic surface potential of the protein.

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